

JANUARY GARDENING TIPS

Year Round Gardening. Colorado gardeners, like the plants they grow, are a hardy lot. It has become increasingly obvious to many devotees of the horticultural arts and outdoor living, that the winter months offer special opportunities for some of those really BIG jobs.

How about removing some of those overgrown mockorange bushes you've been procrastinating about—it was too hot all summer for that sort of heavy work. Fence construction, even "patio building," can be done on many warm winter weekends. Many construction jobs can be done very well during the winter months. When the ground is thawed, earth moving and soil preparation jobs can be done.

Concrete construction can be carried out by application of a protective covering (or mulch if you will) when you are finished. Newly poured concrete produces a great deal of heat—just "dry it in" with a covering of canvas, plastic, tar paper, etc., covered in turn with soil or a thick layer of straw; old leaves, wood chips, etc., can be used also. Care should be exercised to prevent organic materials coming in contact with the curing concrete because they do stain—manure is especially bad in this way—bad or good, as the case may be.

You might want to try this: On a green (fresh) piece of concrete pile some manure and see if the dark mottled staining has a special appeal to you.

While on the subject, for something different in concrete finishes: trowel the surface smooth and apply a random sprinkling of wet leaves to the surface, pressing them lightly in with wet trowel; you will have "instant fossils."

If you must plant trees or shrubs in winter (best done in spring) do water very thoroughly and apply a thick organic mulch, then wet area down again.

Good gardening is an opportunistic business and winter presents a real opportunity.

Toward a Colorful January Garden. Now that the flowers are gone do the drab grays and browns of winter predominate in your garden? Try plant combinations like this: Red and Yellow Stemmed Dogwoods with Cut-leaf European Birch and Eastern White Pine (or our native Ponderosa Pine or Limber Pine). The white stems and graceful pendulous branching of the birch contrasts beautifully with the lush green foliage of the pine and in the foreground a red mass of low stiff twigs and another of bright yellow—all combine to make a colorful and interesting spot in your winter garden. Use imagination to create colorful winter scenes.

Winter Kill? Often winter damage to woody plants can be traced directly to insufficient water. Rather than low temperatures being the culprit, it is more

often a drought induced injury or simply desiccation (drying out). This can and does happen to plants which bear no leaves in winter as well as the evergreens.

On a warm winter day, once in January, again in March and possibly in April as well, soak the soil around trees and shrubs thoroughly.

While soil is warm application of a heavy winter mulch, either before or after watering, will not only preserve moisture and make it easy to irrigate, but will also help to even out soil temperature fluctuations. Soil temperatures will remain generally higher if a good mulch is applied while soil is warm, and the soil is subsequently kept moist.

Thin-barked and shallow-rooted plants are particularly subject to "winter kill" of this sort. Water in winter!

NEWS ITEMS

Volunteers are still needed for help in the Helen Fowler Library. Please call Miss Crissey at 388-0342 for more information.

A class in Home Landscape Design will be taught by Mr. Knauer, Assistant Director, starting January 12th at 7:30 PM and continuing for ten weeks. The course is limited to husband and wife units and students will complete the classes with an actual plan-in-hand for their own residences. Call the receptionist at 297-2547 to register.

On January 21st at 8:00 PM Dr. Gambill will give a free lecture entitled, Is There a Botanic Garden In Your Future? Just how important is a botanic garden to the future of mankind and how have botanic gardens served man in the past?

Mr. Bibee will start again his popular class in Tropical Plants For Home and Garden on January 12th in the afternoon. Call the receptionist for more details.

The course in Identification of Trees and Shrubs taught by Dr. Gambill will be offered again during the Winter Quarter period. First meeting of the class will be at 7:30 PM on Thursday, January 14, in the Main Room, Botanic Gardens House. The class will be open for new registrants as well as those who took it during the past Fall. Much emphasis will be placed on work with needle-leaved woody plants. Call the Botanic Gardens office to register, 297-2547.

As of this writing we do not as yet know when the new Education Building will be finished. For the exact location of meetings held at the Gardens please recheck a few days in advance at 297-2547.

The Men's Garden Clubs of Denver has donated a check for \$1010 to the Development Fund for a row of trees. Actual plantings for the outdoor section of the Gardens will not begin until the spring of 1972. The planting season of 1971 will be spent in soil preparation.

CALENDAR OF EVENTS

January, 1971

January

4)	7:30 PM	Botanic Gardens House	Swingle Tree Study Group
5)	7:30 PM	Botanic Gardens House	Gladiolus Society
5)	8:00 PM	Education Building East Classroom	Colorado Mountain Club
6)	9:00 AM	Botanic Gardens House	Landscape Management Workshop
8)	7:30 PM	Botanic Gardens House	Dahlia Society
8)	8:00 PM	Botanic Gardens House	Colorado Mountain Club State Board
9)	9:30 AM	Botanic Gardens House	Gloxinia-Gesneriad Growers
11)	12:15 PM	Botanic Gardens House	Rocky Mountain Bells
12)	7:30 PM	Botanic Gardens House	Home Landscape Design Class
12)	12:00 Noon	Botanic Gardens House	Colorado Garden Show
13)	7:00 PM	Botanic Gardens House	Public Service Company Arborist's Movie
13)	7:30 PM	Botanic Gardens House	Colorado Mountain Club-Denver Council
19)	9:00 AM	Botanic Gardens House	Botanic Gardens Guild
19)	7:30 PM	Botanic Gardens House	Home Landscape Design Class
20)	9:00 AM	Botanic Gardens House	Landscape Management Workshop
20)	11:30 AM	Botanic Gardens House	Division D-Civic Garden Club
21)	8:00 PM	Botanic Gardens House Main Room	Free Lecture-Is There a Botanic Garden In Your Future? Dr. Wm. Gambill
22)	10:00 AM	Botanic Gardens House	Ikebana International Meeting
25)	12:00 Noon	Education Building Horticulture Hall	Colorado Nursery, Shade Tree and Turfgrass Conference
26)	7:30 PM	Botanic Gardens House	Home Landscape Design Class
26)	8:00 PM	Botanic Gardens House Main Room	Colorado Mountain Club
28)	9:30 AM	Botanic Gardens House	Around The Seasons Meeting
28)	8:00 PM	Education Building (Check for possible change!)	Colorado Mountain Club
29)	10:00 AM	Botanic Gardens House	Ikebana International Meeting
31)	2:00 PM	Botanic Gardens House	Colorado Cactophiles Meeting

Items in small type are open to members or enrollees only.



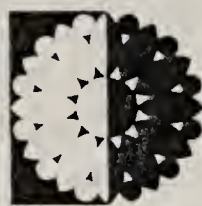
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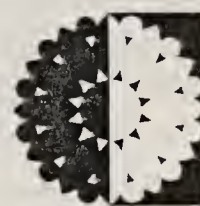
U. S. POSTAGE

PAID

Permit No. 205
Denver, Colorado



*You are cordially invited
to a preview of
The Exhibition-Education Building
For Members, Friends and Prospective Members
Boettcher Memorial Center
The Denver Botanic Gardens*



Friday, March 5, 1971

3:00 to 5:30 p.m.

FEBRUARY GARDENING TIPS

February 2 has come and gone, and even if the groundhog did see his shadow, Old Man Winter's days are numbered!! This is the time for perusal of the new seed catalogues, and for actually planning (not just dreaming about) your vegetable garden and your plantings of annuals for the upcoming growing season. There appears to be a major swing back toward increased interest in growing vegetables. And, why not? It's eminently practical in these days of "high-rise" food costs. Vegetable gardening, as always, brings great rewards in interest and satisfaction beyond the produce which results. New varieties in sweet corn, tomatoes, melons, cucumbers, radishes and lettuce, among others are available for trying this year, and with unusually good promise. Happy planning!

BULBS — TOO EARLY?

Often, because of unseasonably warm winter temperatures, spring blooming bulbs start into early growth. Frequently these "sooners" are often subjected to damaging freezes which can sometimes ruin the flowers for spring and occasionally even kill the plants. One way of handling this problem is to apply three or four inches of loose mulch material on such bulb planting areas, after you have removed carefully any heavy, soggy, matted leaves or debris which may be causing the new shoots to be bent or to become chlorotic, or both. The loose mulch should be applied during a period when the soil may be frozen in late January through February. The mulch will keep your bulbs in "deep freeze," or, if the ground is not frozen,

the mulch will protect the new growth above the ground while the temperatures are low.

Winter application of mulching material is also used by many rose growers in this area to accomplish the same ends—to delay or retard "soft shoot" growth in spring as well as providing protection.

"WHEN SHALL I STOP (OR START) WATERING?"

This somewhat paraphrased question and its very knowledgeable answer we are quoting directly from George Kelly's *Rocky Mountain Horticulture* (3rd Ed., Pruett Press, Inc., Boulder, Colo.). Especially at this time of year, and with the mild weather brought to us in most of January and part of February of 1971, gardeners need to consider this matter very carefully. George's answer to this question, in part, is contained in this quotation:

In our area of limited rainfall, and open, dry winters we should learn that while we may reduce our watering considerably we should never stop it. In an average winter (if there is such a thing) our lawns, trees and other plants would benefit greatly by at least three thorough soakings between November first and April first. If the soil is thoroughly soaked after plants lose their leaves and stop active growth in the fall, and the ground remains frozen, no more watering is necessary or desirable; but when we have periods of several weeks of sunny weather with low air humidity, the soil around plants may become so dry that the roots cannot replace the moisture that is evaporated from their tops. Then we have damage that we call "winterkill." Heaviness or lightness of soils, steepness of slopes, various exposures, and seasons of the year will all affect the frequency of watering, but it is NEVER time to completely stop watering.

SOME STRAIGHT TALK ABOUT PRUNING

What is the best time to prune? Shall I trim my lilacs now?

These, and a myriad of other questions on pruning arise each year with approaching spring. Heavy pruning is best done now, or anytime up until the buds swell, but before they actually break open. We include in this recommendation the spring-blooming shrubs. Because of the almost impossible task of properly pruning a spring-blooming shrub after it has flowered, without inadvertently knocking off many of the valuable new shoots, it is best to prune while dormant. This presupposes application of correct pruning techniques. For example, in pruning a lilac a few of the largest and oldest stems should be removed flush to the ground. The same thing applies to forsythia and to many other multiple-stem shrubs.

Well, don't I lose the bloom that way? Not at all! Especially if you wait until two to four weeks before normal bloom time, and then put the nice plump branches into water in the house, giving you early bouquets.

The "top pruning" or shearing method would have taken all of the flower buds off and none would remain on the shrub. Furthermore, it is incorrect to "head back" (tip prune or shear) a tree or shrub which is grown for the merits of its bloom. In fact, shearing should be restricted to hedges and, perhaps, an occasional formal specimen plant. Avoid shearing or cutting back, and use the thinning or renewal pruning method.

NEWS ITEMS

CORRECTION! The Men's Garden Clubs of Colorado were the donors of a contribution to the Development Fund of \$1,000 which was incorrectly reported in the last issue of the *Green Thumb Newsletter*. (We inadvertently and unintentionally credited this contribution to the Men's Garden Clubs of Denver.) We are very sorry for the error, and extremely grateful for the contribution.

Ikebana International will have their flower arrangement exhibit in the new Horticulture Hall of the Education Building, Saturday, April 24, and Sunday, April 25. Make plans to attend.

The Helen Fowler Library will move to the Education Building about mid-February. The new hours will

be 9-4 Monday through Saturday. Sunday opening is not presently planned. Library volunteers are still welcome. Please contact Mrs. Huggins at 297-2542.

The Annual Plant Sale is scheduled for May 7 and 8.

Are you interested in some special phase of gardening, horticulture or botany? If this subject is adaptable for an organized class we would be interested in hearing your comments and suggestions.

Two special one-day pruning courses will be offered during March this year. They will be Saturday morning sessions starting at 9:00 a.m. through 12 noon. The first on March 13 and the second on March 27, the meetings will be held in the East Classroom of the Education Building. Sign up now.

Recently George Kelly, author of *Rocky Mountain Horticulture* and *A Guide to the Woody Plants of Colorado* paid a visit to the Denver Botanic Gardens. For a number of years Mr. Kelly was the Editor and prolific contributor to the *Green Thumb*, official quarterly periodical of the Denver Botanic Gardens. He was extremely active in the Colorado Forestry and Horticulture Association, the organization which eventually became the Denver Botanic Gardens. As a matter of fact, he was instrumental in helping found the Botanic Gardens. Mr. Kelly has been much honored for his tremendous knowledge of the practice of horticulture in the Rocky Mountain Region, and with his wife was in Denver to take part in the program of the Colorado Nurserymen's Association meeting jointly with the Shade Tree and Turf Grass Conference. Mr. Kelly is retired (as much as is possible with him!) and he and his wife live in McElmo Canyon near Cortez, Colorado.

For the first time in its history, the Denver Botanic Gardens is receiving the benefit of three positions, just recently created: Mrs. Solange Huggins is filling the position of full-time Horticultural Librarian; Mr. James Schell is now serving as the new Horticultural Education Specialist; and Mr. Norman LeMay will start in the newly-created position of Grounds Foreman in mid-February. A fourth new staff member of the Gardens is Mrs. Betty Conn, clerk-typist, who is ably filling the vacancy left by Mrs. Jeanette Bone when she moved to California in December.

MARCH GARDENING TIPS

Colorado Ericads

Native to the mountains of Colorado are eleven genera, members of the plant family Ericaceae. Everyone, for instance, is familiar with the Kinnikinnick (*Arctostaphylos uva-ursi*). There are other native woody plants in this family as well as a number of herbs. All of the plants in this family, commonly known as the heaths, are acid soil lovers.

The very famous group of exotic ornamental flowering shrubs—the rhododendrons and azaleas—are also in this family. Since discussions about these lovely plants have recently come up at meetings and in correspondence directed to the Gardens, we feel it is about time for a little survey work.

If you have in your garden, or know a neighbor or friend in Colorado who has any rhododendrons or azaleas growing and established for a year or more, please drop a card to the Denver Botanic Gardens and give us the person's name and address. Hopefully this information can be included in a nationwide survey, and you may bet on further discussion of this matter in this column.

Planting and Transplanting

Planting and transplanting time will soon be upon us. Trees and shrubs are most ideally transplanted in the spring in this region because this affords an entire growing season for re-establishment of a healthy and fully functional root system before the plant is subjected to the stresses of winter.

Much loose theorizing on planting methods prevails in all parts of the world and the Denver high plains region is no exception. One very basic fact is true in any site having heavy impervious clay soils: the limiting factor to woody plant survival and growth in poorly drained or heavy soil sites is the lack of sufficient soil air—specifically oxygen—to support optimum respiration in the living cells of the root system. This statement takes many forms, to wit: this tree has drowned because you have watered it too heavily; it suffocated because of soil compaction; the tree should have drain tile installed to carry away excess moisture; by the incorporation of raw organic matter gases were produced which led to the plant's death; and finally, it was planted too deep.

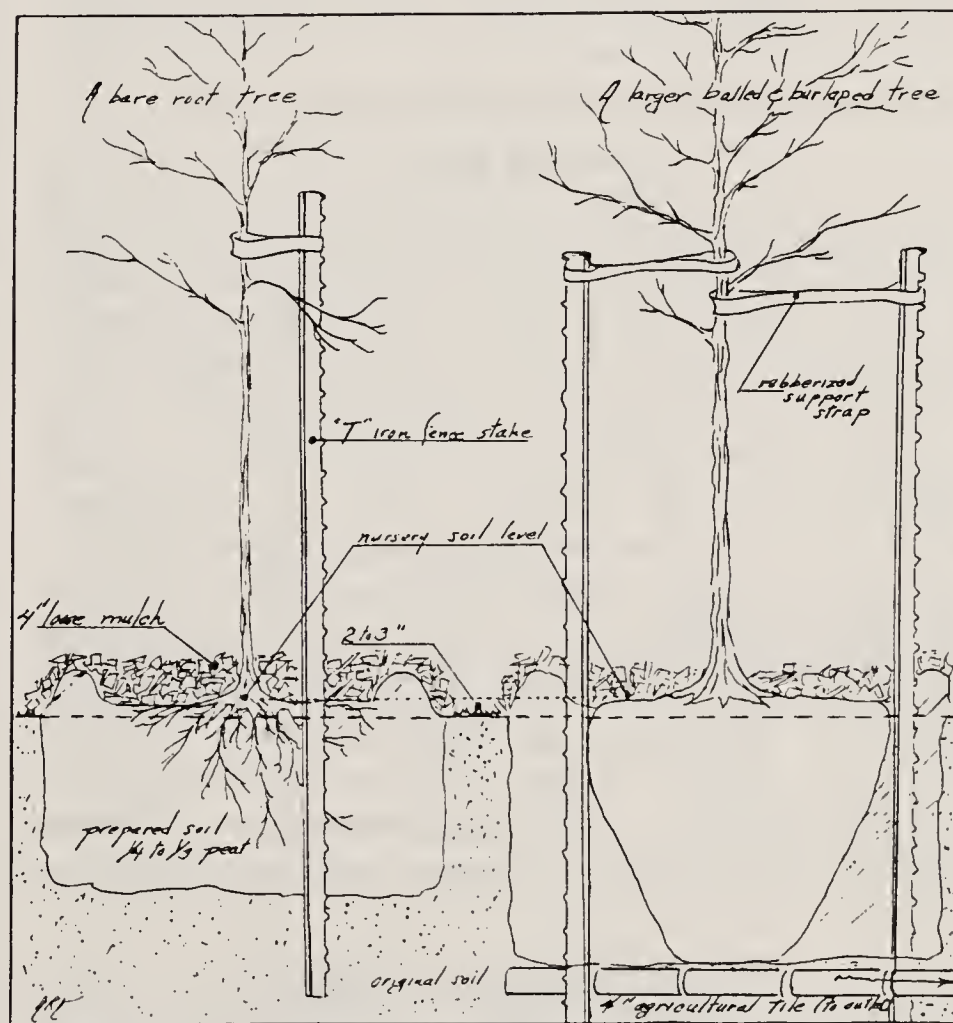
With full awareness that a newly planted tree or shrub may die of many different causes we do, nonetheless, estimate that most unsuccessful transplant-

ings are caused by impaired respiration in the plants root system. Overwatering excludes air. Soil compaction excludes air. Deep planting excludes air. Poor drainage excludes air. Gases produced in certain types of decomposition exclude air.

Any approach which improves the "air holding ability," air space, or gaseous exchange capacity of the soil in and about the planting site will increase the chances of survival of any plant newly placed in a heavy or poorly drained soil.

Digging a generous hole and incorporating a considerable amount of a stable organic material such as sphagnum peat or an inorganic material such as "Perlite" into the soil will help. If very heavy irrigation is practiced for lawn care or whatever reason, a tile drain may be necessary. Carefully placing the plant a little shallow in relation to the surrounding soil surface is a safeguard.

These methods as well as suggestions on support of newly planted trees are illustrated in the accompanying drawings.



If, in the case of the "B & B" tree, a layer of prepared soil is placed under the ball, the top of the ball should be elevated even further.

CORRECTION!

The telephone number of Mrs. Solange Huggins, the new Horticultural Librarian, should have read 297-2547 rather than 297-2542, which was incorrectly reported in the last issue of the *Green Thumb Newsletter*.

NEWS ITEMS

Children's Garden Program

The enrollment period for beginning gardeners will be from March 22nd through April 7, 1971.

Children currently in the 4th (or 9 years old), 5th or 6th grade, who have not participated previously in the program, are eligible.

Parents of interested children must request an Information-Registration form by mail. Send requests to: Children's Garden Program, Denver Botanic Gardens, 909 York Street, Denver, Colorado 80206. Acceptance into the program is on a first-come, first-served basis.

Plant Life Field Trips

Sponsored jointly by the Denver Botanic Gardens and the Denver Museum of Natural History, midweek field trips, every other week, will start Wednesday, March 3, 1971. (If another day proves to be more convenient than Wednesday, the group will make the choice.)

Meet for the field trips at 8:30 A.M. in the parking lot at the rear of the Denver Botanic Gardens House, 909 York Street. Return will be mid-afternoon.

Transportation will be provided for those without cars. To be sure that enough cars are available, those needing transportation should call Denver Botanic Gardens office, 297-2547, by noon on Tuesdays before the trip.

Participants are expected to bring a sack lunch.

Lecture Series

The lecture, "Colorado Wild Flowers" and "Flower Interlude" (one in the series of free lectures sponsored by the Education Committee of the Denver Botanic Gardens) this month is scheduled for Thursday, March 18, 1971, at 8:00 P.M. in the Horticulture Hall in the new Education Building at 1005 York Street. The speakers will be Mr. and Mrs. Vernon R. Tomppert, well-known photographers of nature subjects. The first part of the program will be a short talk on *how* to photograph wildflowers. The next part of the program will be a 25-minute coverage of the blooming cycle of Colorado's wildflowers in their five plant-life zones from April through August. The final segment of the program will be a 15-minute presentation, "Flower Interlude," which has a musical background and no narrative.

"African Violets for Everyone"

The Rocky Mountain African Violet Council will present their tenth annual African Violet show, "African Violets for Everyone," Saturday, April 17, 1971, 2:00 P.M. to 8:00 P.M. and Sunday, April 18, 1971, 1:00 P.M. to 6:00 P.M. The show will be held in Horticulture Hall in the new Education Building at the Denver Botanic Gardens, 1005 York Street. The show chairman is Miss Ruth Dodge, 237-1105, and Miss Isla Montgomery, 355-4991, is the co-chairman.

Curious About Ecology?

You are invited to hear and meet Ann Zwinger, author of *Beyond the Aspen Grove* (Random House) on Thursday, March 25, in the Education Building, 1005 York Street.

"Constant Friendship." At 10:30 A.M. in Horticulture Hall, Mrs. Zwinger will show movies and talk informally about their world of nature on forty acres of mountain land near Colorado Springs which the Zwingers have lovingly explored and recorded, being "careful not to disrupt the balance of the land, the relationship of plant to animal and of each to its environment."

Autograph Tea. Mrs. Zwinger will greet guests and autograph copies of her book between 1:30 and 3:30 P.M. in the library in the Education Building. Herb teas will be served. Both the talk and tea are joint activities of Around the Seasons Club and Associates of Denver Botanic Gardens and are offered without charge.

Plant Sale

The Annual Plant Sale is scheduled for May 7 and 8, 9:30 A.M. to 5:30 P.M. Committee members are busily working on new ideas to make this year's sale more interesting and fulfilling for all. A new feature this year will be the *Creative Corner*. At this station you can learn what to do with your purchased plants once you get them home. *Creative Corner* will be correlated with the *Gift Shop* where small containers may be purchased for potting your newly purchased plants.

Plants from your home gardens are needed and should be taken to the Home Garden Donations Booth or contact Mrs. Glenn Clayton, 781-3468, Mrs. D. L. Christenson, 798-4859, or Mrs. M. C. Larson, 757-1433.

Library Moved

The Helen Fowler Library has been moved to the Education Building. The new hours will be 9-5 Monday through Friday and 10:00 A.M. to 3:00 P.M. Saturday. Volunteers are still needed. Please contact Mrs. Huggins at 297-2547.

Pruning Classes

Do not forget the two special one-day pruning courses scheduled for March 13 and March 27. The sessions will be from 9:00 A.M. through 12 Noon in the East Classroom of the Education Building. Sign up now. Telephone 297-2547.

DEADLINE

The deadline for "news" or other items in the *Green Thumb Newsletter* is the 15th of each month. Please abide by this rule as time is needed to have the newsletter in your hands at the first of each month. Send information to James M. Schell at the gardens.

APRIL GARDENING TIPS

April weather is unpredictable. Any plans for outside activities should be formulated with this fact in mind!

Continue planting bare-root trees and shrubs. It pays to use the best plant material in your garden. Remember if you do not know your merchandise, know your merchant. Go to locally established nurseries and garden shops. They adhere to quality standards set up by the American Nurserymen's Association and they can give you practical advice on local planting problems.

Time for rose planting—learn about planting and complete rose care in our booklet "Rose Culture in the Denver Area." Information on planting, watering, pruning, fertilizing, disease and pest control, winter protection and rose selection are included. Available for 50 cents in the Botanic Gardens Gift Shop.

Dead foliage should be removed from perennial plants including iris. The soil around the iris plants should be cultivated but be careful not to disturb the rhizome which is close to the soil surface. Divide and increase perennial plantings. Shasta daisy, fall aster and chrysanthemum appreciate dividing every 2 or 3 years. Lift out old plants carefully so as to retain as much soil around the roots as possible. Discard the center portion. Plant the new plants that have developed on the outside. Reset in a hole of adequate size, fill firmly with soil and water well. Clumps of daylily, painted daisy and yarrow are divided into halves, thirds or quarters depending on their size. Anchusa, lupine, delphinium, peony and lythrum do not like to be disturbed.

For extended gladiolus bloom during the summer start planting glads in mid-April and continue planting a few corms at 2 week intervals through May. Glads like well drained soil in a sunny location. Spade 8 inches-10 inches deep. Do not use manure. Plant 4 inches-6 inches deep and 6 inches apart. Sprinkle with bulb dust before planting if desired.

NEWS ITEMS

Thank You!

Mr. John C. Mitchell, President of the Board of Trustees, and Dr. William G. Gambill, Director of the Denver Botanic Gardens wish to express their sincere thanks to the many persons who contributed to the success of the dedication ceremonies for the new Exhibition-Education Building on March 4, 5, 6, and 7, 1971. So many individuals were involved in this

fine group effort that it is impossible to acknowledge each one separately. Members of the Board of Trustees, the Guild, the Associates, the Around the Seasons Club, the Library Volunteers, the Denver Botanic Gardens Staff, and the Gift Shop Staff worked with great loyalty and dedication to make the whole occasion an outstanding success, despite the lack of cooperation of the weather during the first two days. The hostesses in their attractive "maxi" skirts and yellow blouses added color and grace to the "open house" periods on Friday, Saturday and Sunday. A resounding vote of thanks is due to all who played a part in the preparations for the celebration of this important milestone in the history of the Denver Botanic Gardens.

PLANT SALE

Growing and expanding with the Denver Botanic Gardens is this year's *Annual Plant Sale* to be held Friday, May 7 and Saturday, May 8 (9:30 A.M.-5:30 P.M.) in and around the Conservatory and the new Education Building. At the new *Creative Corner* demonstrations will be given on what flowers to dry, how to dry and arrange them, and how to make fresh flower arrangements. Another new booth at this year's *Plant Sale* will be the *Berry Basket*; specializing in fruiting trees, shrubs, strawberries and rhubarb. The *Herb and Vegetable Booth* will be offering a wider selection of vegetables (tomatoes, egg plant, hot and Bell peppers) in addition to their every popular herb varieties and scented geraniums.

Inside the Conservatory will be African Violets, as well as the *House Plant Division*, which will be offering many exotic and interesting plants for inside the home (Staghorn Ferns, String-of-Beads and Venus Fly-Trap). The *Gift Shop* will be displaying garden tools, flower and vegetable seeds, and garden statuary. Containers for many purposes can be purchased at the *Gift Shop* or in the colorful *Patio Department*.

On the north side of the Conservatory (off the Gaylord Street gate) will be the dainty *Rock Garden Plants*, an abundance of colorful annuals and perennials, and varied trees and shrubs for both the new-home owner and the well-established yards.

The *Home Donation Booth Committee* again reminds everyone to share their surplus plants (any growing plant from your own garden). Donations for this department can be left at the north-west greenhouse door, starting Monday, May 3rd. Cans, cheese cartons and milk cartons are good containers for your donations.

SPRING QUARTER CLASSES - 1971

The spring quarter classes at the Denver Botanic Gardens are presently being planned. All the classes will meet in the new Education Building at 1005 York Street in their designated room. Please call the receptionist, Helen McCloskey, at 297-2547 for further information or to register.

Dr. William G. Gambill, Jr., Director, will continue his class, *Identification of Trees and Shrubs*, thru April 1, for present members.

His new class *Spring Flora of Denver and Vicinity* will begin April 8, and will continue for 9 weeks. The class will be held on Thursday evenings 7:30 P.M. to 9:30 P.M. in the North Classroom. The fee will be \$5.00 for Denver Botanic Garden members, and \$7.50 for non-members. The enrollment limitation will be 20 to 25.

A half-day class in *Lawn Care* will be taught by Mr. Knauer, Asst. Director, on Saturday, April 24, and Saturday, May 15, from 9:00 A.M. to 12:00 noon in the East Classroom. There is no fee.

Mrs. Robert M. Kosanke will teach a class, *Flower Arrangement for Beginners*, on Wednesday mornings from 9:30 A.M.-11:30 A.M., beginning April 7 and continuing for 9 weeks. Mrs. Kosanke is a member of the Board of Trustees of Denver Botanic Gardens, and immediate past president of the Colorado Federation of Garden Clubs, Inc. The class which is scheduled for the North Classroom will be limited to 16 members and the fee is \$10.00 for members of the Denver Botanic Gardens and \$15 for non-members. Mrs. Kosanke has been very active as an accredited flower show judge, also.

Hanging Baskets—Eye-Level Gardening is the class Mr. David Blades, Asst. Supt. of the Conservatory, will teach in Horticulture Hall in the new Education Building Saturday morning April 10 from 9:30 A.M.-11:30 A.M. He will also demonstrate the "proper" technique in potting plants, and will answer questions on tropical horticulture. There is no fee.

Mr. Norman LeMay, recently appointed as Grounds Foreman at the Denver Botanic Gardens, will teach a class, *Suburban Vegetable Gardening Techniques*, on Saturday, May 1 from 9:00 A.M. to 12:00 noon in the East Classroom in the new Education Building. There is no fee.

Mr. Bibee, Supt. of the Conservatory, will again start his very popular class, *Tropical Plants for House and Garden* on Tuesday evening, April 13, from 7:30 P.M.-9:30 P.M. and will continue for 10 weeks. The class will be limited to 25 members and the fee is \$5.00 for members of the Denver Botanic Gardens and \$7.50 for non-members. All sessions are scheduled to meet in the East Classroom in the new Education Building.

Beverly Pincoski, Botanist-Horticulturist at the Denver Botanic Gardens, will teach a class on *Annual*

Garden Flowers Saturday morning, May 22, from 9:30 A.M.-11:30 A.M. in the South Classroom. There will be no charge.

Arbor Day in Colorado—16 April 1971

Arbor Day was officially established in Colorado by action of the legislature almost eighty years ago as the third Friday in April, each year. Traditionally it has been and is celebrated by the planting of a tree. If there was ever a time in the history of this State, and this Nation, when tree-planting was more appropriate or more needed, it is difficult to think when it would have been.

In recognition of the meaning and importance of Arbor Day, the Denver Botanic Gardens will plant some new trees in the flagpole area of the parking lot between York and Josephine Streets. A brief ceremony is planned at 10:00 A.M. on that day, April 16, near the flagpole. The public is invited to be present. The Botanic Gardens staff members feel that more important than the ceremony is the actual planting of trees. We would like to suggest that each family have its own Arbor Day ceremony, and plant a tree in the family yard, on April 16. And we should like to suggest also that every organization which is concerned with the improvement of the environment in Denver plants at least one tree that day.

Lecture Series

This month's lecture, *Responses of Varieties of Woody Plants (Including Aspen) to Environmental Conditions*, by Dr. George Williams, Department of Biological Sciences, University of Denver, will be held Thursday, April 22, 1971, at 8:00 P.M. in Horticulture Hall in the new Education Building at 1005 York Street. Dr. Williams' program will cover such items as: how do plants react to changes in water conditions, light intensity, biological conditions and temperature. The talk will be illustrated with slides.

Next month, Dr. F.L.S. O'Rourke, Department of Horticulture, Colorado State University will speak on *Trees of the World*. Save this day, May 27, on your calendar.

Sunday Library Opening

The Denver Botanic Gardens Library will be open on Sunday afternoon from 1:00-5:00 P.M. effective Sunday, March 21, 1971. A librarian will be on duty at this time. Members of the Denver Botanic Gardens have borrowing privileges on the basis of their membership cards. Non-members are cordially invited to use books in the library, but are not permitted to check them out. Library volunteers are needed for Saturday from 3-5 P.M., and Sunday afternoon from 1-5 P.M. Contact Mrs. Huggins at 297-2547 for further information.

CALENDAR OF EVENTS

April, 1971

April			*Open to members or enrollees only.
1)	7:45 PM	Botanic Gardens House—Main Room	Orchid Society
1)	7:30 PM	Ed. Bldg.—North Classroom	Identification of Trees & Shrubs—Gambill
1)	8:00 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Walt Disney Movie, "The Vanishing Prairie"
2)	*10:30 AM	Botanic Gardens House—Main Room	Civic Garden Club—Tea and Egg Decorating Demonstration
3)	*9:30 AM	Botanic Gardens House—Main Room	Gloxinia Gesneriad
4)	2:00 PM	Ed. Bldg.—South Classroom	Bromeliad Organization
5)	7:30 PM	Ed. Bldg.—South Classroom	Colorado Mycological Society
6)	*10:00 AM	Ed. Bldg.—Herbarium Room	Herbarium Committee
6)	*1:00 PM	Botanic Gardens House—Dining Room	Editorial Committee
6)	7:30 PM	Ed. Bldg.—East Classroom	Colorado Mountain Club—Conservation
7)	9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
8)	*5:30 PM	Ed. Bldg.—Horticulture Hall	Iris Society—Catered Dinner
8)	7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver and Vicinity—Gambill
8)	8:00 PM	Ed. Bldg.—South Classroom	Rose Society—"Scientific Pruning—Aims and Results"—Mrs. Rosalie Doolittle
9)	*11:00 AM	Botanic Gardens House—Main Room, Dining Room and Kitchen	Park Hill Garden Club Speaker: Dr. Gambill
9)	7:30 PM	Botanic Gardens House Main Room, Dining Room and Kitchen	Dahlia Society
9)	*8:00 PM	Ed. Bldg.—East Classroom	Colorado Mountain Club—State Board
10)	9:30 AM	Ed. Bldg.—Horticulture Hall	Eye-Level Gardening—David Blades
12)	*7:30 PM	Botanic Gardens House—Main Room	Colorado Mycological Society—General Meeting
13)	*4:00 PM	Botanic Gardens House—Dining Room	Executive Committee
13)	7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Bibee
14)	8:30 AM	Botanic Gardens House—Parking Lot	Plant Life Field Trip—Brunquist
14)	9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
14)	*3:30 PM	Ed. Bldg.—Horticulture Hall	Children's Garden Meeting
14)	7:30 PM	Ed. Bldg.—East Classroom	Colorado Mountain Club—Denver Council
15)	7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver and Vicinity—Gambill
15)	8:00 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Bettie Willard Slide show and lecture—"Tundra Flowers of the Western Mountains"
16)	10:00 AM	Parking Lot—Flag Pole Area	Arbor Day Ceremony
16)	7:30 PM	Ed. Bldg.—Herbarium Room	Botany Club
17)	2:00 PM	Ed. Bldg.—Horticulture Hall	African Violet Show and Sale
18)	1:00 PM	Ed. Bldg.—Horticulture Hall	African Violet Show and Sale
19)	7:30 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Basic Class
20)	*9:15 AM	Botanic Gardens House—Main Room	Botanic Gardens Guild
20)	7:00 PM	Botanic Gardens House—Main Room	Audubon Society
20)	7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Bibee
20)	7:30 PM	Ed. Bldg.—South Classroom	Colorado Mountain Club—Intermediate
20)	8:00 PM	Ed. Bldg.—Horticulture Hall	Sierra Club
21)	9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
21)	*3:30 PM	Ed. Bldg.—Horticulture Hall	Children's Garden Meeting
21)	8:00 PM	Ed. Bldg.—North Classroom	Colorado Bonsai Club
22)	10:00 AM	Botanic Gardens House—Main Room	Around the Seasons
22)	7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver and Vicinity—Gambill
22)	7:30 PM	Botanic Gardens House—Main Room	Men's Garden Club of Denver
22)	8:00 PM	Ed. Bldg.—Horticulture Hall	Lecture Series—Dr. George Williams, speaker

April

24)	9:00 AM	Ed. Bldg.—East Classroom	Lawn Care—Knauer
24)	10:00 AM	Ed. Bldg.—Horticulture Hall	Ikebana International Flower Show
25)	10:00 AM	Ed. Bldg.—Horticulture Hall	Ikebana International Flower Show
25)	2:00 PM	Ed. Bldg.—East Classroom	Colorado Cactophiles
26)	7:30 PM	Ed. Bldg.—South Classroom	Colorado Mycological Society
26)	7:30 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Basic Class
27)	7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Bibee
27)	7:30 PM	Botanic Gardens House—Main Room	Colorado Mountain Club—Intermediate
27)	7:30 PM	Ed. Bldg.—North Classroom	Colorado Mountain Club—Photo Section
27)	7:30 PM	Ed. Bldg.—South Classroom	Gladiolus Society
28)	8:30 AM	Botanic Gardens House—Parking Lot	Plant Life Field Trip—Brunquist
28)	9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
28)	*3:30 PM	Ed. Bldg.—Horticulture Hall	Children's Garden Meeting
29)	7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver and Vicinity—Gambill
29)	8:00 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Summer Schedule of Activities—Color Slide Show

May

1)	9:00 AM	Ed. Bldg.—East Classroom	Suburban Vegetable Gardening Techniques Mr. LeMay
1)	9:30 AM	Botanic Gardens House—Main Room	Gloxinia Gesneriad
2)	2:00 PM	Ed. Bldg.—South Classroom	Bromeliad Organization
3)	7:30 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Basic
4)	*9:30 AM	Ed. Bldg.—North Classroom	Sunburn and Blisters Garden Club
4)	*10:00 AM	Ed. Bldg.—Herbarium Room	Herbarium Committee
4)	*1:00 PM	Botanic Gardens House—Dining Room	Editorial Committee
4)	7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Bibee
4)	7:30 PM	Ed. Bldg.—North Classroom	Colorado Mountain Club—Conservation
4)	7:30 PM	Ed. Bldg.—South Classroom	Colorado Mountain Club—Intermediate
5)	9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
5)	*3:30 PM	Ed. Bldg.—Horticulture Hall	Children's Garden Meeting
6)	7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver and Vicinity—Gambill
6)	7:45 PM	Botanic Gardens House—Main Room	Orchid Society
6)	8:00 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Color Slide Show
7)	9:00 AM	Ed. Bldg.—Horticulture Hall and Surrounding Area	Denver Botanic Gardens Plant Sale
8)	9:00 AM	Ed. Bldg.—Horticulture Hall and Surrounding Area	Denver Botanic Gardens Plant Sale



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MAY DAY DINNER-DANCE

The *Garden Club of Denver* extends to all volunteers and members of the Denver Botanic Gardens and their friends a cordial invitation to a black tie *Gourmet Dinner-Dance* Saturday, May 1, 1971 at 7:00 p.m. in the new Garden Court Lobby and Horticulture Hall at 1005 York Street. Reservations for this \$25 per person (\$50 per couple) event can be made by calling 985-0437. Singles as well as couples are very welcome. All proceeds will go to Denver Botanic Gardens. A spring floral display of exotic azaleas and rhododendrons will be located in the Garden Court Lobby.

PLANT SALE

The "Best Year Ever" is the word from this year's Plant Sale Committees who have been finalizing plans for the Annual Plant Sale Friday, May 7 and Saturday, May 8 (9:30 a.m.-5:30 p.m.). The Gaylord St. entrance to the Conservatory area will serve as the main access to most of the booths at this year's sale. Parking will be available in the main parking lot, between York and Josephine streets, and in the vicinity of 10th and Gaylord.

Annuals. Over a dozen different varieties of petunias, that have been test proven at the Denver Botanic Gardens will be for sale. Snapdragons (both the "Rocket" and "Butterfly" varieties), alyssum, verbena, asters (including the dwarf type), pansies, violas, coleus (for that shady spot in your garden) and many, many more selections of annuals can be purchased. Also available this year will be yellow and white marguerite daisies which give best results when treated as an annual in this area.

Perennials. Penstemons, delphiniums and coral bells, will be among the many choice perennials that will be offered. Aster, geum, columbine, lupine and statice, pampas grass, as well as honeysuckle and clematis vines, will be sold. New for the first time in many years will be potted roses: (miniatures, hybrid teas and grandifloras). A special section of the perennial booth will be devoted specifically to chrysanthemums. USDA

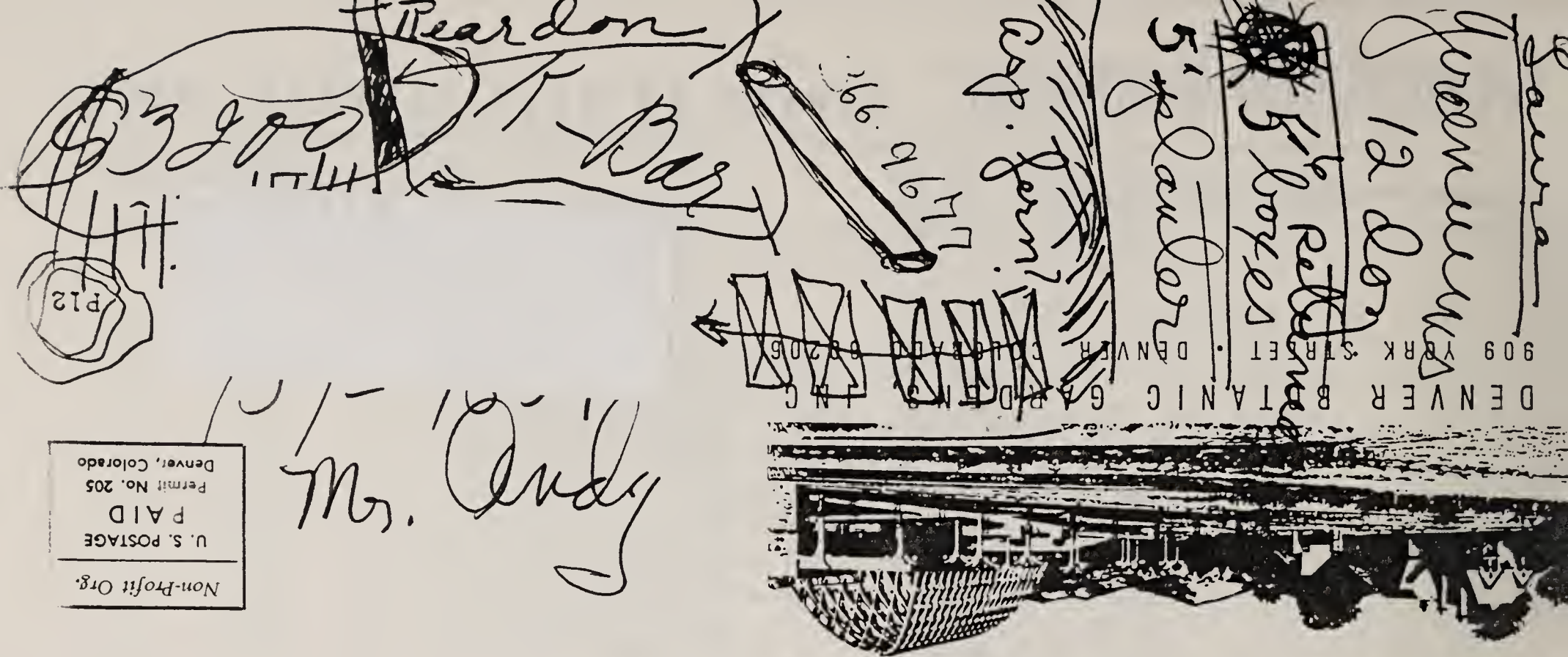
introductions from the Cheyenne Horticultural Field Station which were bred for hardiness and adaptation to this climate will be among the varieties on sale.

Rock Garden. Bright and gay primroses will be among the many appealing plants in this ever-popular booth. Bellflowers, alpine asters, Jacob's ladder and gay rosaces may be purchased here. Grown especially for this sale is the native spotted saxifrage (*Saxifraga bronchialis*) boasting evergreen rosettes, with several clusters of waxy white blossoms on 2-inch stems. Among ground covers to be offered are a variety of thymes, native kinnikinnick, pussytoes and creeping veronica.

Trees and Shrubs. The species in this department were selected for their uniqueness, and to enhance garden interest. Japanese tree lilac, redbud and the double pink hawthorn will be among the selections. The weeping caragana, often used to plant above a wall or a clump of aspen, several varieties of oak, evergreens, and shrub roses will be available.

Berry Basket. This area will specialize in the fruiting trees and shrubs, grapes, strawberries and rhubarb.

Herbs and Vegetables. Favorite old-world fragrant herbs and scented geraniums will be special features here. Gay 6-foot strings of Mexican chili peppers will hang from the booth and will be for sale. A large selection of vegetables (tomatoes, asparagus, egg plant, cabbage and peppers) will be offered.



Plant Sale—Continued

Home Donations. This booth offers exciting discoveries for bargain seekers and discriminating buyers. Those persons offering plants of this type are encouraged to bring their contributions to the west greenhouse door beginning Monday, May 3rd.

House Plants. The new Horticulture Hall will set the stage for the house plants and African violets. Both exotic and easy-to-care for plants will be on hand. Many varieties of ferns (fluffy-ruffle and mini-ruffle, asparagus and Boston) may be purchased here. Many philodendrons, jade plants, begonias, indoor cacti, crassulas (including "donkeytails", "living rocks" and "golden star"), and a few large plants for atrium display can also be purchased at this booth.

Gift Shop. In its newly carpeted quarters, the Gift Shop will be displaying garden statuary, containers, woven baskets, ceramic figures, and an exciting new line of gifts from South America which are made of natural plant materials. The Gift Shop Annex in the Lobby will be devoted exclusively to a wide selection of garden tools, labels, gloves and flower seeds.

Books. A booth featuring second-hand and duplicate books on many aspects of plants and plant life will serve as the bargain-lookers' delight. Many fine, old and out-of-print books may be acquired here.

Patio. Near the front entrance will be the gay and entrancing Patio and Geranium Department offering hanging baskets for both sun and shade. A delightful array of colorful geraniums, lobelia, fuschia, *Asparagus sprengeri*, and strawberry jars full of plants will also be available.

Refreshments. Luncheon and soft drinks will be available on the lower level in the east class room of the new Education building. Gay umbrella tables will be placed around the area for enjoying a break from shopping.

Children's Corner. Once again a special shopping area has been designated where inexpensive posies and presents are available for small-sized purchasers. Colorful helium balloons will also be for sale.

ENGRAVING MACHINE OPERATOR

GREEN THUMB EDITOR

The Denver Botanic Gardens is now looking for a replacement for the post of Editor, and believes that the most qualified candidates may be found among its own members, volunteers and friends.

Anyone who is interested in serving the Denver Botanic Gardens in this capacity is urged to contact the Director, Dr. William Gambill, at 297-2547.

MAY GARDENING TIPS

Spring planting is now in full swing and with the season so advanced this year little time remains to plant trees and shrubs in the "bare root" condition. If you can find at nurseries or garden outlets bare root trees and shrubs which appear to have been stored under cool, moist conditions, and have not yet developed new shoots, they may still be planted. Do not delay with this type, otherwise, it would be better to plant rooted specimens. Remove approximately 1/3 of the total leaf producing surface by cutting back the terminals of all branches on newly planted trees and shrubs (do not cut the terminal or leading shoot).

Select your *annual plants* from vendors supplying small healthy plants in preference to large ones. As a safe generalization you can expect a flat of small petunias with good deep green leaves and no flowers to out-grow and out-produce ones of the same variety in which the plants are much larger and which are in full bloom. Try it and see. If you are unable to find good small plants, be sure to cut the larger ones back (remove all the flowers). Sound drastic to you? Again, try it and see the results! Remember, newly planted seedlings need frequent waterings at first. Gradually increase the amount of water applied and decrease the frequency of the applications until you can achieve a once-a-week or twice-a-week schedule about a month after planting. By doing this you will encourage deep rooting and more durable plants. Generally, all annuals and tender bedding plants will respond well to the above recommendations.

Lawn problems, too, can be alleviated to a great extent by following the infrequent (once a week or less) watering technique. Apply no less than 1 inch of water at a time—preferably 2 inches. A few coffee cans set about the lawn will serve as a check on "how much." Two inches of irrigation means an accumulation of a two-inch depth in the cans. Very sandy soil will obviously require a modification of the watering technique. Sandy soil will require more frequent watering as the percolation rate in the sandy soil is much greater than the clay or clay-loam soils. Do as much irrigating as possible early in the day so the foliage is dry by the evening. This practice will help to prevent the development of certain fungus diseases. Blue grass or blue grass-fescue lawns should be mowed to a minimum height of 1.5 inches to 2 inches. You can check the height of the blades on your mower by measuring the distance between a hard surfaced walk or driveway and the bottom of the blades.

Crab grass a problem last year? To prevent the growth of crab grass a pre-emergence herbicide is necessary. Several excellent herbicides are available that are harmless to mature grasses and inhibit the germination of seeds from the previous year. Materials containing Dacthal, Betesan, Azak or Bandane are good.

May is still a good time for *pruning evergreens*. When pruning is done just before new growth emerges, results can be excellent. The "stubby look" is soon masked by the new growth.

Prevent early build-up of *spider mites*, *aphids* and *scale insects* by spraying with Malathion two or three times, in May, all plants which have a history of these problems. *Cotoneaster*, junipers and spruce are very subject to attacks by all three pests listed above. Many members of the Rose Family are subject also, to all of these pests. If you are not certain about the particular pests occurring on your plants and their control, contact your Horticultural Extension Agent.

LECTURE SERIES

Dr. F. L. S. O'Rourke, Department of Horticulture, Colorado State University, will speak on *Flowering Trees of the World*, Thursday, May 27 at 8:00 P.M., in Horticulture Hall in the new Education building at 1005 York Street. His program will feature color slides depicting flowering trees from around the world. The information Dr. O'Rourke has compiled for this program is all first-hand as he has traveled throughout the world and the slides are a result of his own efforts and travels. Dr. O'Rourke has worked for the United States Department of Agriculture as a plant propagator and in other capacities at which time his work took him many places throughout the world. Later as a Horticulturist at Michigan State University he continued his work and travels.

ANNUAL PLANT SALE

Friday, May 7 and Saturday, May 8 (9:30 A.M.-5:30 P.M.) in and around the Conservatory and the new Education building at 1005 York Street. See the April 1971 (No. 71-4) and the April 1971 supplemental spring (No. 71-4S) issues of the *Green Thumb Newsletter* for details.

GUIDES

Guides are still needed for the Conservatory tours. If anyone is interested, please call Mrs. Phil Hayward, at 757-4237, for further information.

SERVICE PINS

At a ceremony held in Horticulture Hall April 13, 1971, which was attended by Mayor William H. McNichols, Jr., Mr. Joe Ciancio, Jr., Manager of Parks and Recreation, Mr. Pat Gallavan, Director of Parks, and other distinguished guests, seven employees of the Denver Botanic Gardens and others received service pins for given lengths of service as employees of the City and County of Denver in the division of Parks and Recreation. The awards to the Denver Botanic Gardens employees were as follows: Mr. Jerry Lehr, 15 years; Mrs. Iris R. Nakagawa, 10 years; Mr. Richard Schimming, 10 years; Mr. Ragnar Bramberg, 10 years; Mr. Ed Fennell, 10 years; Mr. Ernest A. Bibee, 5 years; and Mr. Harry H. Covillo, 5 years (now retired).

TULIPS IN BLOOM?

The "Cottage" Tulips, planted in the garden immediately south of the Denver Botanic Gardens House should be in "prime bloom" about Mothers' Day week-end depending upon the weather. The total planting of 2,000 consists of 500 each of the following: "Tulip Renown" (red); "Rosy Wings" (pink); "Sigrid Undset" (white); "Yellow Giant" (yellow). Plan a stop at the Denver Botanic Gardens House to see the lovely tulips in bloom!

FRIDAY EVENING CLOSING OF CONSERVATORY

By the action of the Executive Committee of the Board of Trustees, the Conservatory will be closed on Friday evenings effective March 12, 1971. The reason for this is that the Conservatory is insufficiently lighted to permit adequate viewing and study of the plants at night.

POTS, POTS, POTS

If anyone has extra clay pots (3", 4", 5"), please bring them to the Botanic Gardens greenhouse to Dave Blades, as many pots are still needed.

GREEN THUMB EDITOR

Mr. David Blades, Assistant Superintendent of the Conservatory, has asked to be released from his position of Editor of the *Green Thumb* quarterly magazine with the publication of the Spring, 1971 issue. This issue will soon go to press.

The Denver Botanic Gardens is now looking for a replacement for the post of Editor, and believes that the most qualified candidates may be found among its own members, volunteers and friends.

Anyone who is interested in serving the Denver Botanic Gardens in this capacity is urged to contact the Director, Dr. William Gambill, at 297-2547.

ENGRAVING MACHINE OPERATOR

The Denver Botanic Gardens is seeking a qualified person to train to use its new engraving machine to produce plant labels from plastic stock material. Among the qualifications desired in this person are the following: Good typing ability; accuracy in the spelling of English and Latinized plant names; ability to plan labels for maximum neatness and effectiveness; manual dexterity. Persons interested in applying should be able to spend 8-10 hours weekly, and the time could be arranged, within reasonable limits, to meet the convenience of the individual. Compensation yet to be determined. Apply to Dr. William Gambill, Director, at 297-2547.

GROWING OLD?

In February 1971, the Denver Botanic Gardens was 20 years old.

CORRECTION

In the *Rock Garden* section of the *Plant Sale* publicity in the Supplemental Spring issue (No. 71-4S) the words "gay rosaces" should have read "androsace."

RECENT ACQUISITIONS TO THE LIBRARY

Baur, Robert C.

Gardens in glass containers. N.Y. Hearthside Press. 1970. illus. 191 p.

Brett, William S. and Kay Grant

Small city gardens. N.Y. Abelard-Schuman, 1967. illus. 159 p.

Miles, Bebe

Bluebells & bittersweet; gardening with native American plants. N.Y. Van Nostrand Reinhold, 1970. illus. 168 p.

Nicolaisen, Age

The pocket encyclopedia of indoor plants in color. N.Y. Macmillan, 1970. illus. 269 p.

Edland, Henry,

The pocket encyclopedia of roses in color. With 507 roses reproduced in full color. 3d rev. and enl ed.. N.Y. Macmillan, 1969. illus. 208 p.

Ewan, Joseph Andorfer

A short history of botany in the United States. N.Y. Hafner, 1969. 174 p.

Foster, Laura Louise

Keeping the plants you pick. New York, Crowell, 1970. illus. 149 p.

Mirov, Nicholar Tiho

The genus *Pinus*. N.Y. Ronald Press Co. 1967. illus. 602 p.

Winkler, Albert Julius

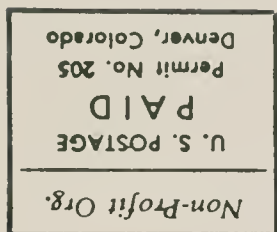
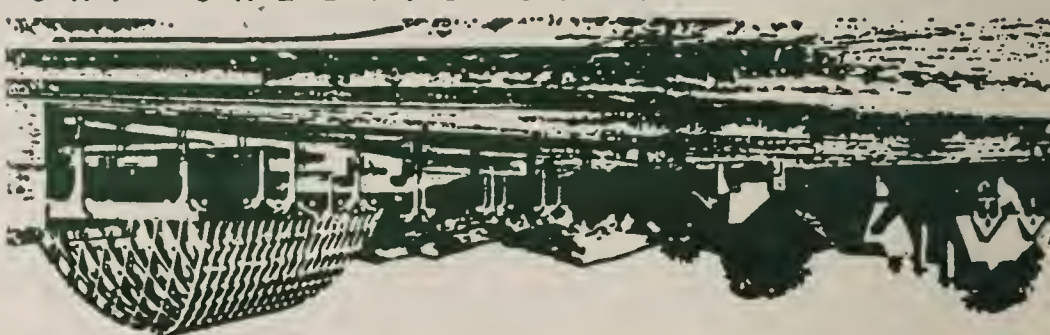
General viticulture. Berkeley, University of California Press, 1962. illus. 633 p.

CALENDAR OF EVENTS

May, 1971

May			*Open to members or enrollees only.
1)	9:00 AM	Ed. Bldg.—East Classroom	Suburban Vegetable Gardening Techniques—Mr. LeMay
1)	9:30 AM	Ed. Bldg.—South Classroom	Gloxinia Gesneriad Growers
1)	6:30 PM	Ed. Bldg.—Hort. Hall and Garden Court Lobby	Garden Club of Denver—Dinner Dance
2)	2:00 PM	Ed. Bldg.—South Classroom	Bromeliad Organization
3)	7:30 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Basic
4)	*9:30 AM	Ed. Bldg.—North Classroom	Sunburn & Blisters Garden Club
4)	*10:00 AM	Ed. Bldg.—Herbarium Room	Herbarium Committee
4)	7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Mr. Bibee
4)	7:30 PM	Ed. Bldg.—North Classroom	Colorado Mountain Club—Conservation
4)	7:30 PM	Ed. Bldg.—South Classroom	Colorado Mountain Club—Intermediate
5)	9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
5)	*3:30 PM	Ed. Bldg.—Horticulture Hall	Children's Garden Meeting
6)	7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver and Vicinity—Dr. Gambill
6)	7:45 PM	Botanic Gardens House—Main Room	Orchid Society
6)	8:00 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Color Slide Show
6)	8:00 PM	Ed. Bldg.—South Classroom	Wilderness Institute Inc.
7)	9:00 AM	Ed. Bldg.—Horticulture Hall and Surrounding Area	Denver Botanic Gardens Annual Plant Sale
8)	9:00 AM	Ed. Bldg.—Horticulture Hall and Surrounding Area	Denver Botanic Gardens Annual Plant Sale
10)	7:30 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Basic
10)	7:30 PM	Botanic Gardens House—Main Room	Colorado Mycological Society General Meeting
11)	*4:00 PM	Botanic Gardens House—Dining Room	Executive Committee
11)	7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Mr. Bibee
11)	7:30 PM	Ed. Bldg.—South Classroom	Colorado Mountain Club—Intermediate
12)	9:00 AM	Botanic Gardens House—Parking Lot	Plant Life Field Trip—Dr. Brunquist
12)	*9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
12)	*3:30 PM	Ed. Bldg.—Horticulture Hall	Children's Garden Meeting
12)	7:30 PM	Ed. Bldg.—East Classroom	Colorado Mountain Club—Denver Council
13)	*7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver and Vicinity—Dr. Gambill
13)	8:00 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Gale Kehmier "Ports of Call"
13)	8:00 PM	Ed. Bldg.—East Classroom	Denver Rose Society—"New Insectides, Their Uses"
14)	7:30 PM	Botanic Gardens House—Main Room	Dahlia Society
15)	*9:00 AM	Ed. Bldg.—East Classroom	Lawn Care—Mr. Knauer
18)	*9:15 AM	Botanic Gardens House—Main Room	Botanic Gardens Guild
18)	Noon	Botanic Gardens House—Main Room	African Violet Council
18)	7:00 PM	Botanic Gardens House—Main Room	Audubon Society
18)	*7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Mr. Bibee
18)	7:30 PM	Ed. Bldg.—Horticulture Hall	Sierra Club
19)	*9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
19)	8:00 PM	Ed. Bldg.—North Classroom	Colorado Bonsai Club
20)	*7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver and Vicinity—Dr. Gambill
21)	*6:30 PM	Ed. Bldg.—South Classroom	Cornerstone Class
21)	7:30 PM	Ed. Bldg.—North Classroom	Botany Club
22)	*9:30 AM	Ed. Bldg.—South Classroom	Annual Garden Flowers—Beverly Pincoski
22)	10:00 AM	Ed. Bldg.—Horticulture Hall	Jr. Bonsai Club—Plant Exhibit
23)	12:00 AM	Ed. Bldg.—Horticulture Hall	Jr. Bonsai Club—Plant Exhibit

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May

23)	*2:00 PM	Ed. Bldg.—East Classroom	Colorado Cactophiles
24)	7:30 PM	Ed. Bldg.—South Classroom	Colorado Mycological Society
25)	*4:00 PM	Botanic Gardens House—Main Room	Board of Trustees
25)	7:30 PM	Botanic Gardens House—Main Room	Colorado Mountain Club—Photo Section
25)	*7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Mr. Bibee
25)	7:30 PM	Ed. Bldg.—South Classroom	Gladiolus Society
26)	10:00 AM	Ed. Bldg.—Horticulture Hall	“We Care”—(Film)
26)	9:00 AM	Botanic Gardens House—Parking Lot	Plant Life Field Trip—Dr. Brunquist
26)	*9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
26)	1:45 PM	Ed. Bldg.—North Classroom	Longmont Home Economist
27)	10:00 AM	Botanic Gardens House—Main Room	Around the Seasons
27)	7:30 PM	Botanic Gardens House—Main Room	Men’s Garden Club
27)	*7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver and Vicinity—Dr. Gambill
27)	8:00 PM	Ed. Bldg.—Horticulture Hall	“Trees of the World”—Professor F.L.S. O’Rourke
30)	7:30 PM	Ed. Bldg.—East Classroom	Colorado Mycological Society

June

1)	10:00 AM	Ed. Bldg.—Herbarium Room	Herbarium Committee
1)	*1:00 PM	Botanic Gardens House—Dining Room	Editorial Committee
1)	*7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Mr. Bibee
2)	*9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
3)	*7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver and Vicinity—Dr. Gambill
3)	7:45 PM	Botanic Gardens House—Main Room	Orchid Society
3)	8:00 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Colorado Council of Camera Clubs—15th Int’l. Exhibition of Photography
4)	*10:30 AM	Ed. Bldg.—East Classroom	Civic Garden Club
5)	2:00 PM	Ed. Bldg.—Horticulture Hall	Iris Flower Show
6)	10:00 AM	Ed. Bldg.—Horticulture Hall	Iris Flower Show
6)	2:00 PM	Ed. Bldg.—South Classroom	Bromeliad Organization

JUNE GARDENING TIPS

June is the gardener's month of *reaping*—a fruitful time of the year. Many flowering trees, shrubs, and perennials are nearing the peak of their growth. Accompanying this prolific production of foliage, flowers and fruit is a massive appearance of harmful insects and plant diseases—feeders on healthy tissues. A definitive, total, spraying program to control all pests is not considered wise today because of concern for the ecology and the lack of specificity of most pesticides. Furthermore, it is simply unnecessary. The presence of these facts places the burden on the gardener to observe carefully and detect, at an early date, pest problems on valuable plants. *Hand-picking* of certain insects which appear in colonies and removal of diseased portions of a plant can be quite effective methods of control. Classical hand-picking of plant pests is not to be under-rated, but it is not always effective. Examples of the above methods are: (1) removal and destruction of the "tent" of the tent caterpillars at night when they are all "at home"; (2) severing of a fire blight-infected stem or twig tip when wilting is first observed.

There are other *non-chemical controls* too. One of the very oldest methods of controlling spider mites is with frequent and very forceful applications of water from a nozzle adjusted to a "jet-like" stream. The mites are so small they simply starve before they are able to crawl back to their host. Application of irrigation water early enough in the day to enable foliage to dry out before night helps to prevent the development of certain fungus diseases.

Don't be completely led astray, however, by the current emphasis on the idea which advocates that "healthy plants resist insects and diseases." Certain examples can be cited where this notion can be demonstrated quite dramatically. However, you will still find it necessary to protect your plants against invasions of insect pests and plant diseases.

The future for *biological controls* looks quite promising and these controls can take many forms. Biological controls are outstanding examples of very intricate and exacting scientific research work. At present these techniques are much too specific and exacting to be used by the individual gardener.

Good *insecticides* and *fungicides* are on the market today which have characteristics desirable for all concerned. Short life is one of these desirable traits. In this category are Sevin, malathion and spectracide, all good common, general insect killers. Specificity (toxic to a narrow range of living things) is another very desirable characteristic. As examples, we can cite Kelthane, a miticide, and Tedion, an ovicide (kills mites' eggs).

Most *fungicides* must be enduring to be effective, but they should be non-mercuric and non-arsenical. Good examples are: Captan, maneb, sulphur (cool weather only), fixed zinc and fixed copper materials. An example of a new type of plant pesticide which works within the plant (systemic) and has thus far shown no evidence of being a cyclic contaminant is Benlate or Benomyl.

Our *pesticides* are changing and it takes much reading and research to keep fully informed. New approaches to pest control are being formulated and, hopefully, we will benefit from them in the near future.

FROM: JOHN C. MITCHELL, PRESIDENT

On behalf of the Board of Trustees and myself, I do wish to express our very heartfelt thanks to all of the more than 300 volunteers who have contributed to the annual plant sale held on May 7 and 8. Early indications are that this was the most successful sale ever held.

Planning for this sale was most successful, and it seems that the problems of circulation were solved. The use of both the north and south side of the new Education Building and Conservatory as well as the lobby allowed for attractive and practical displays of merchandise. Even the weather, although threatening, cooperated during those two days in the midst of a rather prolonged rainy period.

Our sincere thanks to all of you, the various committee chairmen, the plant contributors and growers, the sales force, the efficient cashiers, the courtesy loaders, the pick-up crews and everyone connected with this very fine cooperative effort. The net return on your efforts will go a long way toward assisting the budget of the Gardens with the great development task we have ahead.

GREEN THUMB EDITOR

The Denver Botanic Gardens is very pleased to announce the addition of Margaret J. Sikes to the staff as the new *Green Thumb* editor. Miss Sikes holds a B.A. degree in Botany from the University of Denver and a M.A. degree in History, also from the University of Denver. The past ten years she has served as the Administrative Assistant to the President at Temple Buell College. She is presently doing advanced study in biological sciences at Arapahoe Junior College.

DENVER ROSE SOCIETY DONATION

The Denver Rose Society presented a check for \$1,000 last month to the Denver Botanic Gardens. The money is to be used for the preparation of the new public rose garden at the Denver Botanic Gardens.

SUMMER QUARTER CLASSES

The summer schedule of classes at the Denver Botanic Gardens will include three classes. Please call the receptionist at 297-2547 for further information and to register.

Mr. Andrew Knauer, Assistant Director, will teach a half-day class, *Summer Care of Roses*, Saturday, July 10, from 9:00 a.m. to 12:00 noon in the East classroom in the Education building at 1005 York Street. His other half-day class, *Dividing and Transplanting Perennials*, will be taught Saturday, August 7, from 9:00 a.m. to 12:00 noon, also in the East classroom. Both of the above classes are free and open to the public.

Bonsai for Beginners is the class Mr. George Fukuma will teach beginning Thursday evening, July 8, and will continue for 10 weeks. Mr. Fukuma is president of the Senior Bonsai Club in Denver and he is also a professional bonsai grower in Denver. The class will meet on Thursday evenings at 7:30 p.m. in the North classroom in the Education building. The enrollment limitation is 30-35 and the registration fee is \$10.00.

SUMMER GUIDED TOUR SCHEDULE

The summer schedule for free, one-half hour, guided tours at the Denver Botanic Gardens which will begin June 14 and end August 31 is as follows: Monday through Friday, 10:00 a.m. to 12 Noon and 1:00 p.m. to 3:00 p.m. A volunteer guide will be present at these times to lead the tour groups through the Conservatory. Special guided tours within the hours listed above for groups of 30-40 may be scheduled by calling 297-2547 and allowing two weeks advance notice to plan for the tour. The public is very welcome to tour the Conservatory even without a guide.

SUMMER BOTANY PROGRAM

A summer school course, *Botany Seminar and Field Study*, is scheduled for June 21 through July 30, 1971, in the east classroom in the new Education building at 1005 York Street. The course is designed to, hopefully, have pupil representation from each of the senior high schools in the Denver area. The course will be taught by Mr. Bill Bollacker, George Washington High School biology teacher, from 8:00 a.m. to 10:15 a.m., Monday through Thursday, with the course carrying 5 hours credit for Biology IV-Botany.

GLOXINIA GESNERIAD GROWERS SHOW AND SALE

The Gloxinia Gesneriad Growers plant show and sale will be held in the Botanic Gardens House, Main Room, at 909 York Street. The show and sale which is open to the public is to be held Saturday, June 19, from 2:00 p.m. to 6:00 p.m. and Sunday, June 20, from 1:00 p.m. to 6:00 p.m. Contact Miss Isla Montgomery at 355-4991 for further details.

VOLUNTEERS NEEDED

Denver Botanic Gardens needs several volunteers, who have some experience and knowledge of the Botanic Gardens and its activities, to answer telephones. Volunteers should be able to serve for a period of 2-3 hours consecutively, at least once a week (oftener if they are so inclined).

One volunteer is much needed immediately to answer the telephone in the receptionist's office on the first floor of Botanic Gardens House on Saturday mornings from approximately 9:00 till noon. Quite a number of volunteers will be needed to answer the telephone in the new office of Mr. James Schell, Horticultural Education Specialist, in the Conservatory Foyer, from 9:00 a.m. to noon, and 1:00 p.m.-4:00 p.m. daily Monday through Friday.

Those interested in helping out as indicated above should contact Mr. James Schell at 297-2547.

ENGRAVING MACHINE OPERATOR

A person has been selected to operate the Denver Botanic Gardens engraving machine used to print plant labels.

GUIDES

Guides are still needed for the Conservatory tours. If anyone is interested, please call Mrs. Phil Hayward, at 757-4237, for further information.

DUTCH ELM DISEASE FILM

The showing of "The American Elm: A Plan for Survival" will take place in Horticulture Hall Wednesday, June 23, at 8:00 p.m. Dr. James Feucht will conduct a question and answer period following the film. The event is free and open to the public.

GREEN THUMB MAGAZINE DELAYED

Due to the change in printers and editors, the spring issue of the *Green Thumb* has been delayed.

AMERICAN IRIS SOCIETY SHOW

Region twenty of the American Iris Society will hold its 1971 Iris show, "Star Trek," in Horticulture Hall at the Denver Botanic Gardens, 1005 York Street. The show is free and open to the public Saturday, June 5, 1:30 p.m. to 6:00 p.m. and Sunday, June 6, 10:00 a.m. to 6:00 p.m. Preregistration must be received by June 4, 1971. Call or write: Mrs. Thomas A. Johnson, 1858 South Downing, Denver, Colorado 80210, phone 733-7520, or Joseph H. Hoage, phone 237-9453.

MEMORIAL DONATION

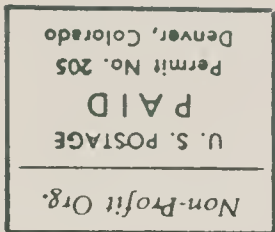
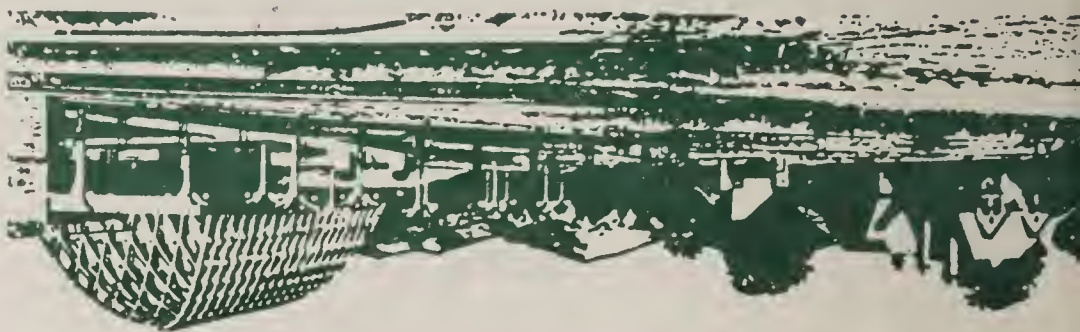
Those wishing to contribute to the Lobby Court Fund as a memorial may do so by inquiring at Botanic Gardens House at 909 York Street, telephone 297-2547. The money will be used to purchase plant material to be used for in-season displays in the garden court lobby.

CALENDAR OF EVENTS

June, 1971

June			
1)	*10:00 AM	Ed. Bldg.—Herbarium Room	Herbarium Committee
1)	* 1:00 PM	Botanic Gardens House—Dining Room	Editorial Committee
1)	* 7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Mr. Bibee
2)	* 9:30 AM	Ed. Bldg.—North Classroom	Flower Arrangement for Beginners—Mrs. Kosanke
3)	* 7:30 PM	Ed. Bldg.—North Classroom	Spring Flora of Denver & Vicinity—Dr. Gambill
3)	7:45 PM	Botanic Gardens House—Main Room	Orchid Society
3)	8:00 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Colorado Council of Camera Clubs—15th Int'l Exhibition of Photography
4)	*10:30 AM	Ed. Bldg.—East Classroom	Civic Garden Club
5)	1:30 PM	Ed. Bldg.—Horticulture Hall	Iris Flower Show
6)	10:00 AM	Ed. Bldg.—Horticulture Hall	Iris Flower Show
6)	2:00 PM	Ed. Bldg.—South Classroom	Bromeliad Organization
8)	* 4:00 PM	Botanic Gardens House—Dining Room	Executive Committee
8)	7:30 PM	Ed. Bldg.—East Classroom	Colorado Mountain Club—Conservation
8)	* 7:30 PM	Ed. Bldg.—North Classroom	Tropical Plants for House & Garden—Mr. Bibee
9)	9:00 AM	Botanic Gardens House—Parking Lot	Plant Life Field Trip—Dr. Brunquist
9)	4:00 PM	Ed. Bldg.—Horticulture Hall	Children's Garden Lecture
9)	7:30 PM	Ed. Bldg.—East Classroom	Colorado Mountain Club—Denver Council
10)	8:00 PM	Ed. Bldg.—Horticulture Hall	Denver Rose Society—"Secrets-Growing-Showing, Judging Roses"
11)	7:30 PM	Botanic Gardens House—Main Room	Dahlia Society
11)	8:00 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club—Colorado Council of Camera Clubs—15th Int'l Exhibition of Photography
12) thru 27)	9:00 AM-5:00 PM	Ed. Bldg.—Lobby Court and Surrounding Area	2nd Edition—Nature Slide Colorado Watercolor Exhibit
14)	7:30 PM	Ed. Bldg.—Horticulture Hall	Colorado Mycological Society—General Meeting
15)	* 9:15 AM	Botanic Gardens House—Main Room	Botanic Gardens Guild
15)	7:00 PM	Botanic Gardens House—Main Room	Audubon Society
15)	* 7:30 PM	Ed. Bldg.—East Classroom	Tropical Plants for House & Garden—Mr. Bibee
15)	7:30 PM	Ed. Bldg.—Horticulture Hall	Sierra Club
16)	8:00 PM	Ed. Bldg.—North Classroom	Colorado Bonsai Club
18)	7:30 PM	Ed. Bldg.—Herbarium Room	Botany Club
19)	2:00 PM-6:00 PM	Botanic Gardens House—Main Room and Dining Room	Gloxinia Gesneriad Growers—Plant Show & Sale
20)	1:00 PM-6:00 PM	Botanic Gardens House—Main Room and Dining Room	Gloxinia Gesneriad Growers—Plant Show & Sale
21)	* 8:00 AM	Ed. Bldg.—East Classroom	Botany Seminar & Field Studies—Mr. Bill Bollacker
21)	* 1:00 PM	Ed. Bldg.—Lounge, Horticulture Hall	Library Committee
21)	7:30 PM	Ed. Bldg.—East Classroom	Colorado Mycological Society—Educ. Meeting
22)	* 8:00 AM	Ed. Bldg.—East Classroom	Botany Seminar & Field Studies—Mr. Bill Bollacker
22)	7:30 PM	Ed. Bldg.—South Classroom	Gladiolus Society
23)	* 8:00 AM	Ed. Bldg.—East Classroom	Botany Seminar & Field Studies—Mr. Bill Bollacker
23)	9:00 AM	Botanic Gardens House—Parking Lot	Plant Life Field Trip—Dr. Brunquist
23)	8:00 PM	Ed. Bldg.—Horticulture Hall	Dutch Elm Disease Film—Dr. Feucht
24)	* 8:00 AM	Ed. Bldg.—East Classroom	Botany Seminar & Field Studies—Mr. Bill Bollacker
24)	10:00 AM	Botanic Gardens House—Main Room	African Violet Society of Denver
24)	7:30 PM	Botanic Gardens House—Main Room	Men's Garden Club of Denver
24)	8:00 PM	Ed. Bldg.—Horticulture Hall	Colorado Mountain Club Film—"To Walk the Divide and Wild Rivers"
27)	2:00 PM	Ed. Bldg.—East Classroom	Colorado Cactophiles
28)	* 8:00 AM	Ed. Bldg.—East Classroom	Botany Seminar & Field Studies—Mr. Bill Bollacker
28)	7:30 PM	Ed. Bldg.—East Classroom	Colorado Mycological Society—Educ. Meeting

DENVER BOTANIC GARDENS, INC.
909 YORK STREET • DENVER, COLORADO 80206



June

- | | | | |
|-----|---|----------|-----------------------------|
| 29) | * | 8:00 AM | Ed. Bldg.—East Classroom |
| 29) | | 7:30 PM | Ed. Bldg.—South Classroom |
| 30) | * | 8:00 AM | Ed. Bldg.—East Classroom |
| 30) | | 10:00 AM | Ed. Bldg.—Horticulture Hall |

Botany Seminar & Field Studies—Mr. Bill Bollacker
Colorado Mountain Club—Photo Section
Botany Seminar & Field Studies—Mr. Bill Bollacker
Children's Garden Lecture

July

- | | | | |
|----|---|---------|---------------------------|
| 1) | * | 8:00 AM | Ed. Bldg.—East Classroom |
| 4) | | 2:00 PM | Ed. Bldg.—South Classroom |

Botany Seminar & Field Studies—Mr. Bill Bollacker
Bromeliad Organization

*Open to members or enrollees only.

Green Thumb Newsletter

DENVER BOTANIC GARDENS, INC.

NUMBER 71-7

TELEPHONE 297-2547

JULY GARDENING TIPS

July is vacation time for many people, and if planning to stay away for any length of time, the good gardener should make arrangements to have the yard taken care of. It is surprising how weeds will grow in your absence and how many of the little day-to-day chores while you are at home will multiply into big headaches when you return from vacation.

Here are some things that should be considered before leaving on a vacation. First, in making arrangements for mowing the lawn and watering, the person you hire should be well-instructed on the following: (1) Mowing height. Make sure he adjusts his mower to the height you are mowing your lawn or, better yet, instruct him on the use of your own mower. (2) Show him where the obstacles which might damage the lawn mower are located. Rather than relying on his memory, mark them with conspicuous flags or stakes. (3) Caution him on bumping into your shade trees with the mower. If necessary, construct barriers where this might occur. (4) If he is to water and you do not have an automatic system, show him the best places to set the sprinklers to cover the area. (5) Caution him against getting too close to the foundations of the house, particularly if you have a basement that might become flooded.

Frequency of watering is often difficult to describe and it will depend upon the individual yard and the soil type. Give the person you hire some idea as to how often you water, how long you leave the sprinklers in a given spot and show him those locations where it tends to dry out more frequently and may need special attention.

Before departing, it is best to weed and cultivate all flower beds and shrub borders rather than rely on the judgment of someone you hire. This would be particularly true if you hire "the boy next door." Unless the person is trained to recognize the difference between a weed and a garden flower, it is better to do it yourself.

Under no circumstances should you allow an untrained person to use pesticides and herbicides. If you have a few pest problems in the yard, take care of these before you leave or have it done by a reputable arborist.

In July we begin to see many of the vegetable garden insects rear their ugly heads and you should be on the lookout for these pests. Some insects that are particularly troublesome this time of year would include the Mexican bean beetle, blister beetles, aphids, spider mites and the tomato hornworm. All of these are very destructive in a very short period of time and should be controlled as early as possible. Properly diluted and applied, sprays of Sevin and Malathion will provide quick control of the insect pests. For mites, use Kelthane or a combination spray containing a miticide. Remember to *read the label, dilute and apply only as directed*.

July is also a good time to get away from your garden and visit the M. Walter Pesman Trail on Mount Goliath. Spring normally begins there in about mid-July. Because of late snows this year, you might do well to wait until the third or fourth week in July to make your visit. At that time you should find dwarf alpines from *Achillea* to *Zygadenus* in bloom. In fact, there are as many as 50 different species of alpine plants in bloom at the same time. If you are interested

in making the trip, ask for your free copy of a mimeographed list from Dr. James R. Feucht, CSU Extension Associate Professor of Horticulture, 909 York Street, Denver, Colorado 80206. This list gives the more common plants flowering in July and August on that trail.

Watering of lawns can be critical in July. Remember, however, that the lawn is trying to go naturally dormant during the hot part of the year, and allowing the grass to go to a slightly wilted stage will do it no harm. When slightly wilted it usually appears blue-green and when walking on it, foot prints will remain on the turf. When you water, water deeply and then let it wilt slightly before watering again. This will help promote a deeper-rooted, more drought tolerant root system. Spot watering will probably be necessary between the deep waterings, particularly where there are patches of clay or sandy soil. In a clay soil, water more slowly so that the soil can absorb the moisture. Sandy soil will need shorter but more frequent watering.

Dr. James R. Feucht

UNIVERSITY THRIFT SHOP

Anyone who has merchandise they would like to donate for sale in behalf of Denver Botanic Gardens may do so by taking the items to the University Thrift Shop, 601 Ogden Street, Denver, Colorado. The sales periods for Denver Botanic Gardens are October 4-9, 1971, and January 24-29, 1972. All donations, properly identified, should be delivered to the shop at least one week prior to the above reserved sales periods. The shop is open Monday through Saturday from 9:00 A.M. to 4:00 P.M. during the school year. All items donated by individual members of a contributor organization may be used by the individual donor as a charitable deduction.

ANNUAL GARDEN TOURS

The *Terrace and Garden Tours* are scheduled for Thursday, July 29 from 10:00 A.M. to 6:00 P.M. The tours will be through gardens in the Cherry Hills area. The tickets for this event are \$4.00 each. For more information contact Mrs. William Stanley at 771-3617 or 781-4570. Luncheon is available for \$1.50 at Kent School by reservation only.

ADDITIONS TO THE LIBRARY

On April 19, 1971, the Associates of the Denver Botanic Gardens presented the *Index Kewensis* and its fourteen supplements to the Helen Fowler Library in honor of Dr. A. C. Hildreth, emeritus director of the Denver Botanic Gardens. The addition to the library of this valuable research and basic reference tool is greatly appreciated.

Among other acquisitions are: Westcott, Cynthia, *Plant Disease Handbook*; Hussey, Christopher, *English Gardens and*

Landscape, 1700-1750; McDonald, Elvin and Lawrence Power, *The Low-Upkeep Book on Lawns and Landscape*; Roper, Lanning, *On Gardens and Gardening*; Everard, Barbara and Brian D. Morley, *Wild Flowers of the World*.

To the collection for younger gardeners the following titles have been added: Dupuy, William Atherton, *Our Insect Friends and Foes* and *Our Plant Friends and Foes*; Scheib, Ida, *The First Book of Food*; *Better Homes and Gardens Vegetable Cook Book*.

The library also has ready for distribution an alphabetical list of periodicals currently being received.

SUMMER LIBRARY AVAILABILITY

The Denver Botanic Gardens library is available for use by "Summer Term" students in the Denver area. The library hours are 9:00 A.M. to 5:00 P.M., Monday through Friday, 10:00 A.M. to 3:00 P.M., Saturday and 1:00 P.M. to 5:00 P.M., Sunday. Contact Mrs. Huggins at 297-2547 for further information.

COLORADO GLADIOLUS SOCIETY SHOW

The "World We Live In" will be held in Horticulture Hall at 1005 York Street, Saturday, August 7th from 1:00 P.M. to 5:00 P.M., and Sunday, August 8th from 9:00 A.M. to 5:00 P.M. Plan to attend this Rocky Mountain International Show.

NEWS FROM AROUND THE GARDENS

- The Children's Garden program is in full swing and the outside plantings are growing well.
- Six Golden-rain trees have been planted in the garden level area immediately south of the new Education Building.
- "Tammy" Junipers have been planted on both sides of the walkway leading into the Conservatory and the Education Building.
- Some ten thousand annuals have been planted in many areas of the garden with the largest number of plantings being in the area bordering Josephine Street.
- Plantings of pine and aspen have been secured and will be planted in August.

SUMMER QUARTER CLASSES

The summer schedule of classes at the Denver Botanic Gardens will include four classes. Please call the receptionist at 297-2547 for further information and to register.

Mr. Andrew Knauer, Assistant Director, will teach a half-day class, *Summer Care of Roses*, Saturday, July 10th from 9:00 A.M. to 12:00 Noon in the East classroom in the Education Building at 1005 York Street. His other half-day class, *Dividing and Transplanting Perennials*, will be taught Saturday, August 7th from 9:00 A.M. to 12 Noon, also in the East classroom. Both of the above classes are free and open to

the public.

Bonsai For Beginners is the class Mr. George Fukuma will teach beginning Thursday evening, July 8th, and will continue for 10 weeks. Mr. Fukuma is President of the Senior Bonsai Club in Denver and he is also a professional bonsai grower in Denver. The class will meet on Thursday evenings at 7:30 P.M. in the North classroom in the Education Building. The enrollment limitation is 30 - 35 and the registration fee is \$10.00.

Mrs. Robert M. Kosanke will again teach her very popular class, *Flower Arrangement For Beginners*, on Wednesday mornings from 9:15 A.M. to 12:30 P.M. beginning July 7th and continuing for 5 weeks (through August 4th). The class members will use their own garden materials for the practical portion of the class. Mrs. Kosanke is a member of the Board of Trustees of Denver Botanic Gardens, and immediate Past President of the Colorado Federation of Garden Clubs, Inc. The class is scheduled for the North classroom and will be limited to 16 members. The fee is \$10.00 for members of the Denver Botanic Gardens and \$15.00 for non-members. The fee should be paid directly to Denver Botanic Gardens.

AMERICAN HORTICULTURAL SOCIETY GRANT

The American Horticultural Society has recently received a grant from the Longwood Foundation of Wilmington, Delaware. Successive grants from the Longwood Foundation are funding the development of a data bank designed to contain a computerized informational inventory of the cultivated plants of North America. The Plant Records Center which Denver Botanic Gardens participates in is located at the John J. Tyler Arboretum at Lima, Pennsylvania. The Center keeps records on plant collections from botanical gardens, arboreta, colleges, governmental agencies, and plant societies in North America.

DR. A. C. HILDRETH RECEIVES AWARD

The National Council of State Garden Clubs, Inc. presented last May to Dr. Hildreth, emeritus director of Denver Botanic Gardens, The Silver Seal. The award is presented each year to an individual, organization, or institution, other than garden clubs, for special contribution toward the advancement of work of garden clubs. Congratulations to Dr. Hildreth!



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$5.00 a year. Items for publication are welcome. The deadline for copy to the editor is the 15th of each preceding month of publication. Editor: James M. Schell, 297-2547, Ext. 23.

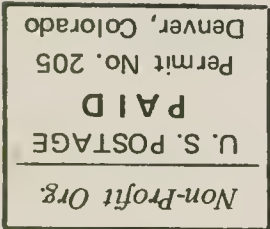
CALENDAR OF EVENTS

July, 1971

July, 1971

1)	* 8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
4)	2:00 PM	Ed. Bldg., — South Classroom	Bromeliad Organization
5)	* 8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
6)	* 8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
6)	* 10:00 AM	Ed. Bldg., — Herbarium Room	Herbarium Committee
6)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
6)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club — Conservation
7)	* 8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
7)	9:00 AM	Botanic Gardens House — Parking Lot	Plant Life Field Trip — Dr. Brunquist
7)	* 9:15 AM	Ed. Bldg., — North Classroom	Flower Arrangement for Beginners — Mrs. Kosanke
8)	* 8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
8)	7:30 PM	Ed. Bldg., — North Classroom	Bonsai For Beginners — Mr. Fukuma
8)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — “Getting High in Mexico”
9)	7:30 PM	Botanic Gardens House— Main Room — Dining Room — Kitchen	Dahlia Society
9)	8:00 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club — State Board
10)	9:00 AM	Ed. Bldg., — East Classroom	Summer Care of Roses — Mr. Knauer
11)	1:00 PM	Ed. Bldg., — North Classroom	Gladiolus Society Workshop
11)	8:00 PM	Ed. Bldg., — Horticulture Hall	Denver Rose Society — Picnic & Program
12)	* 8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
12)	7:30 PM	Ed. Bldg., — North Classroom	Colorado Mycological Society — Education Meeting
12)	7:30 PM	Ed. Bldg., — South Classroom	Colorado Mycological Society — Education Meeting
13)	* 8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
13)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
14)	* 8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
14)	9:15 AM	Ed. Bldg., — North Classroom	Flower Arrangement for Beginners — Mrs. Kosanke
14)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club — Denver Council
15)	* 8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
15)	7:30 PM	Ed. Bldg., — North Classroom	Bonsai for Beginners — Mr. Fukuma
16)	7:30 PM	Ed. Bldg., — Herbarium Room	Botany Club
19)	* 8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
19)	1:00 PM	Ed. Bldg., — Horticulture Hall — Lounge	Library Committee
19)	7:30 PM	Ed. Bldg., — North Classroom	Colorado Mycological Society
19)	7:30 PM	Ed. Bldg., — South Classroom	Colorado Mycological Society
20)	8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
20)	* 9:15 AM	Botanic Gardens House — Main Room	Botanic Gardens Guild
20)	7:00 PM	Botanic Gardens House — Main Room	Audubon Society
20)	7:30 PM	Ed. Bldg., — Horticulture Hall	Sierra Club
21)	8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
21)	9:00 AM	Botanic Gardens House — Parking Lot	Plant Life Field Trip — Dr. Brunquist
21)	9:15 AM	Ed. Bldg., — North Classroom	Flower Arrangement for Beginners — Mrs. Kosanke
21)	10:00 AM	Ed. Bldg., — Horticulture Hall	Children's Garden Lecture — Mr. Herb Gundell
21)	8:00 PM	Ed. Bldg., — North Classroom	Colorado Bonsai Club
22)	8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
22)	7:30 PM	Ed. Bldg., — North Classroom	Bonsai for Beginners — Mr. Fukuma
22)	7:30 PM	Ed. Bldg., — East Classroom	Organic Gardening Club of Denver
22)	7:30 PM	Botanic Gardens House — Main Room	Men's Garden Club of Denver
22)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — “Americans on Everest”
25)	2:00 PM	Ed. Bldg., — East Classroom	Colorado Cactophiles
26)	8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
26)	7:30 PM	Ed. Bldg., — Horticulture Hall	Colorado Mycological Society
27)	8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
27)	4:00 PM	Botanic Gardens House — Main Room	Board of Trustees
27)	7:30 PM	Ed. Bldg., — North Classroom	Gladiolus Society
27)	7:30 PM	Ed. Bldg., — South Classroom	Colorado Mountain Club — Photo Section
28)	8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
28)	9:15 AM	Ed. Bldg., — North Classroom	Flower Arrangement for Beginners — Mrs. Kosanke
29)	8:00 AM	Ed. Bldg., — East Classroom	Botany Seminar & Field Studies — Mr. Bill Bollacker
29)	7:30 PM	Ed. Bldg., — North Classroom	Bonsai for Beginners — Mr. Fukuma

DENVER BOTANIC GARDENS, INC.
909 YORK STREET • DENVER, COLORADO 80206



August

- | | | |
|----|--------------|-------------------------------------|
| 1) | 2:00 PM | Ed. Bldg., — South Classroom |
| 2) | 7:30 PM | Ed. Bldg., — Horticulture Hall |
| 3) | 10:00 AM | Ed. Bldg., — Herbarium Room |
| 3) | 1:00 PM | Botanic Gardens House — Main Room |
| 3) | 7:30 PM | Ed. Bldg., — East Classroom |
| 4) | 9:00 AM | Botanic Gardens House — Parking Lot |
| 4) | 9:15 AM | Ed. Bldg., — North Classroom |
| 5) | 7:30 PM | Ed. Bldg., — North Classroom |
| 5) | 8:00 PM | Ed. Bldg., — Horticulture Hall |
| 7) | 9:00 AM | Ed. Bldg., — East Classroom |
| 7) | 1:00 PM—5:00 | Ed. Bldg., — Horticulture Hall |
| 8) | 9:00 AM—5:00 | Ed. Bldg., — Horticulture Hall |

- Bromeliad Organization
- Colorado Mycological Society
- Herbarium Committee
- Editorial Committee
- Colorado Mountain Club — Conservation
- Plant Life Field Trip — Dr. Brunquist
- Flower Arrangement for Beginners — Mrs. Kosanke
- Bonsai for Beginners — Mr. Fukuma
- Colorado Mountain Club — “Annapurna”
- Dividing & Transplanting Perennials — Mr. Knauer
- Colorado Gladiolus Society Show
- Colorado Gladiolus Society Show

* = Open to members or enrollees only.

AUGUST GARDENING TIPS

Though it may seem a long way from thoughts of winter during these hot August days, it is time to think about preparing trees and shrubs for winter. Few need to be reminded of the devastating October freeze of 1969, and while we hope never to see a repeat of that disaster, it could happen again. Even if it does not, it is best to condition trees and shrubs so that they are ready for an early fall and winter.

About the middle of this month is a good time to begin a gradual withdrawal of water from trees and shrubs. Let me emphasize that this should be gradual. By withdrawing water, trees and shrubs will tend to become hardened and respond to the shortening days and cooling nights. This triggers a chemical change within the plant to get it ready for winter. This is particularly important in certain trees and shrubs which usually grow late, producing soft foliage and shoots on into the fall months. Some good examples are the Soft (Silver) Maple and the Golden Raintree (*Kolreuteria*).

Many trees already have well formed buds for next year's growth at the base of each leaf. Woody plants that are still pushing new growth by the middle of August are the ones that should have special attention in trying to slow down by withholding water. It is also best not to apply too much nitrogen fertilizers. The best time to fertilize trees and shrubs is *after* they have become dormant in the fall.

August usually brings on the hot weather diseases of lawns, including brown patch and dollar spot. These diseases usually start out as small brown spots and quickly spread into larger diameter circles, often coalescing to produce a rather ugly turf. They are difficult to diagnose because dryness, doggie spots and a few soil-borne insect symptoms may appear the same. Contact your local County Extension Office for assistance in diagnosing these problems.

Some of the best chemicals for the control of these summer diseases include Captan, Daconil 2787, Dyrene, Fore and Tersan 1991. The latter contains a new systemic fungicide (Benomyl), which is proving to have broad spectrum control over a large number of diseases not only in turf but in trees and shrubs as well. It is a rather expensive material and not too readily available as yet. When available, it should prove to be quite useful for controlling mildew and black spot in roses as well as mildew in lilacs and zinnias. It does not seem to be effective on rust diseases.

Towards the end of August is a good time to shop around for grass seed if you are planning to install a new lawn or patch up an old one. When buying grass seed, look for quality; don't buy by price alone. Check the label carefully for the following: Date of packaged seed. The date should be within the year of purchase. If not, germination may be poor. The percentage germination test

indicated on the label should be 90% or higher. If you are looking for a good Kentucky bluegrass, whether it is common, Merion, Windsor or any of the other bluegrass varieties, the label should indicate the percentage of those varieties. For a solid bluegrass lawn, the percentage should be 85 or higher. Avoid those plants which list percentages of "Kentucky 31 fescues," "fine kinds" and "coarse perennial ryes." Weeds should be less than 1%. The most misleading part of a seed label is the matter of percentages. It is based on percent by weight. Some weeds have extremely tiny seeds and even a mixture containing 1% weed can have literally thousands.

You can tell something about the quality of seed by its appearance. If it has a lot of large seeds looking much like oats, then you can know it is a cheap mixture. Actually, you are not getting a bargain with these coarse grasses. You get fewer seeds to begin with. Let's compare. A pound of Kentucky bluegrass will contain about 2,200,000 seeds; a pound of rye grass will contain 230,000 seeds. Thus a pound of bluegrass which may cost as much as \$5 for high quality seed will still be a better bargain than a pound of grass seed mixture which you may buy for 99¢.

Before planting the seed be sure the soil is prepared properly. Add organic matter or even sand and organic matter if the soils tend to be a heavy clay. Good soil preparation pays big dividends for years to come. Poor preparation results in problems within a short period of time. These problems are not easily corrected.

During the cool, moist weather this spring, a relatively little-known disease to this area showed up in lawns. The disease, Stripe Smut, is common in the more humid areas of the U. S.

In the hot period of June, the disease seemed to die down, but with late afternoon thunderstorms in July, the disease began to show up again.

Stripe Smut is easily recognized by the gray-to-black stripes in the grass blades. It is a *systemic disease*. That is, it moves through the rhizomes and can kill the young tillers.

If the smut is extensive, treatment is warranted. The only recommended control found effective is Benomyl (Benlate, Tersan 1991.) This is a duPont product which is still very expensive and not widely available. If you need to purchase this material, call Dr. Feucht at 355-8306 for information on its sources.

Now is the time to divide your perennials (Iris, Peony, etc.)

Dr. James R. Feucht

CONSERVATORY GUIDES

People who are interested in training to be a Conservatory guide should call Mrs. Phil Hayward at 757-4237. Prior botanical experience is not necessary but it is beneficial.

SUMMER CLASS

Do not forget Mr. Knauers' class, *Dividing and Transplanting Perennials*, which will be taught Saturday, August 7 from 9:00 A.M. to 12 Noon in the East classroom. The class is free and open to the public. Call 297-2547 for more information and to register.

MEMORIAL DONATION

A donation to the Lobby Court Fund may serve very well as a memorial. Those wishing to contribute may do so by inquiring at Botanic Gardens House at 909 York Street or by calling 297-2547. The money will be used to purchase plant material to be used for in-season displays in the garden court lobby.

NEWS FROM AROUND THE GARDENS

- The annual plantings along York and Josephine Streets are making a colorful showing. Included in this extensive display are varieties of petunia, marigold, ageratum, coleus, zinnia, snapdragon, verbena, geranium and lantana. Some of the less commonly known plants include the following: acalypha, celosia (cockscomb), cleome, seed dahlia, *Verbena venosa* and *Salvia farinacea*.
- Another step forward . . . the outside gardens' waterways have been installed and have been completely "checked-out."

ROSE SOCIETY JUDGING SCHOOL

The 1971 Rocky Mountain Judging School sponsored by The Arapahoe County Rose Society will be held in Horticulture Hall at 1005 York Street, Saturday, August 14 from 9:00 A.M. to 4:00 P.M. and Sunday, August 15 from 9:00 A.M. to 12 Noon. The text book, *The Judging of Roses* by E. H. Lewis, will be used and is available from the school registrar, Mr. Myron Nixon, telephone number 424-6429. This school is designed to broaden ones knowledge of the rose as well as qualifying him for the apprentice rose judge certificate if the other qualifications are met. For more information call the school registrar mentioned above or Mr. G. E. "Casey" O'Donnell, school chairman, at 665-5587.

PLANT LIFE FIELD TRIP

The plant life field trips led by Dr. Brunquist are an excellent way to "get out" and learn the flora of Denver and the surrounding area. The group meets each Wednesday morning at 9:00 A.M. in the Denver Botanic Gardens parking lot at 909 York Street before departing on each trip. Return to Denver Botanic Gardens in mid-afternoon and the participants are expected to bring a sack lunch.

COLORADO GLADIOLUS SOCIETY SHOW

The 18th Annual Rocky Mountain International Gladiolus Show, "World We Live In," will be held in Horticulture Hall at 1005 York Street, Saturday, August 7th from 1:00 P.M. to 5:00 P.M. and Sunday, August 8th from 9:00 A.M. to 5:00 P.M. The show which is being sponsored by the Colorado Gladiolus

Society will consist of the Horticultural Division and the Arrangement Division. Advance formal entry is required in the arrangement division and those interested in entering should contact Mr. Lee Ashley at 757-4948. On Sunday, August 8 at 11:00 A.M. and 3:00 P.M. in the North classroom Mr. Ashley will give a demonstration on gladiolus arranging for the home. In the South classroom on Sunday, August 8 at 10:00 A.M. and 2:00 P.M., Mr. John Reese will give a lecture and slide presentation on the culture and growing of gladiolus in the Denver area. All of the above events are free and open to the public.

FLORAL DESIGN CLASS

Beginning September 27 and continuing throughout the Fall quarter a class in "Floral Design" will be taught at the Denver Botanic Gardens in conjunction with the Community College of Denver. The class will be limited to 20 - 25 students and will be taught in the Denver Botanic Gardens plant preparation room and in the North classroom at 1005 York Street. The course will carry 6 hours of college credit and is designed to train people to become competent enough to seek employment in the retail floral business or for the student to take the course for personal interest and knowledge. For more information call the Community College, Community and Personal Services, at 287-3311, extension 242.

LIBRARY NEWS

Library hours have been stabilized. The Library is open Monday through Saturday from 9:00 A.M. to 5:00 P.M. and Sundays from 1:00 P.M. to 5:00 P.M. However, during the period from 9 August to 19 August, 1971, hours will be curtailed to some extent because of vacations. We will do our best to be open every day and the hours will be posted in plain view.

Recent additions to the collection are: Haring, Elda. *Color For Your Yard And Garden*. Hawthorn, 1971. Mohlenbrock, Robert H. *Ferns*. Southern Illinois University Press, 1967. *Flowering Plants; Flowering Rush To Rushes*. Southern Illinois University Press, 1970. *Flowering Plants; Lilies To Orchids*. Southern Illinois University Press, 1970.

These three books are part of The Illustrated Flora of Illinois Series. Freehof, Lillian S. and Lottie C. Bandman. *Flowers And Festivals Of The Jewish Year*. Hearthside, 1964.

The Library has also acquired two encyclopedias as gifts from generous patrons. *Compton's* was placed in the juvenile collection and the *Americana* in reference.

FREE MOVIES

The Colorado Mountain Club has some very good movies which are shown in the Denver Botanic Gardens Horticulture Hall at 1005 York Street on every other Thursday evening at 8:00 P.M. The following films will be shown on their respective dates: "Annapurna," August 5; "Hiking Thru The North Cascades," August 19; "Ski The Wild Side," September 2. The films are all free and open to the public.

Green Thumb Newsletter

DENVER BOTANIC GARDENS, INC.

NUMBER 71-9

1971

TELEPHONE 297-2547

SEPTEMBER GARDENING TIPS

It's back to school and vacation time is over, but not in our gardens. Colorado frequently has "Indian Summers" which tend to extend our growing season and also result in some of the most brilliant fall colors. No one can predict the date of the first hard killing frost, but there are many things that can be done in the yard in the meantime as well as after the frost.

One of the most important jobs is to keep up with the weeding of shrub borders and flower beds. Try to avoid letting weeds go to seed because they will only add to your problem next year. Periodic weeding, while somewhat of a chore, is much better than waiting until it becomes a big problem. It will then indeed be a chore. Another advantage of keeping weeds pulled before they go to seed is that they can be put into your compost pile without contaminating the compost for future use.

Last month this column gave advice on buying grass seed. If you are planning to establish a new lawn or patch up an old one, here is some more advice, whether you choose to use seed or sod.

The most important step after selecting seed or sod is the preparation of the soil. Don't be misled by those claiming that the ground need not be prepared before applying sod. The roots of sod are no different from those that develop from seeds. In both cases continued root development is dependent upon proper aeration, moisture level and nutrition. Laying sod on hard, packed ground which has not been previously cultivated is no better than laying it on concrete. While demonstrations by commercial firms show that sod can be grown on concrete, these demonstrations don't tell the amount of time and expense necessary to perform this hydroponic feat. Most demonstrations of that type are also short-term, but your lawn should be considered a permanent installation.

Before seeding or sodding, the ground should be worked well and organic matter added, if necessary, to a depth of six inches. Sod should be laid only on a firmed, but not compacted, surface. This is best done with a roller.

Speaking of "instant lawns," it is now also possible to have *instant shade*! It was recently disclosed that there are over forty companies in the Colorado area that have large tree moving equipment, some capable of lifting and transporting trees with a trunk diameter of ten inches and even more. Initial costs, of course, are high, but there are distinct advantages in not having to wait many years for shade. If you are contemplating the purchase of a tree moved by this large equipment, seek advice from your local extension office or from the author.

Perhaps this fall you are contemplating replacing a tree or shrub that may have been lost in the devastating freeze of 1969. While fall is considered second best as a time for transplanting, spring being preferable, you can successfully transplant many trees and shrubs if done properly.

When buying a tree from a nursery, whether it be in a container or field grown, be just as fussy as if you were buying a refrigerator, a washing machine or an automobile. Look for quality and don't buy by price alone. Some things to consider when buying a tree: first, what size and shape will best suit the location in which it is to be placed? Second, in what type of soil will it be planted? Pay particular attention to the sub-soil drainage. Third, what kind of exposure — sun, shade, wind — will the tree have?

As a general rule, the faster a tree grows the more brittle it is. Species such as soft maple, Siberian (Chinese) elm and willows may make shade a few years faster than oak or linden, but they will also break up in storms much more readily. Few of us need to be reminded of the devastation of 1969.

As a general rule, a tree that has numerous, closely-spaced branches, like a Lombardy poplar (also rather fast growing,) will be more brittle than a tree with branches at near right angles to the main trunk. Select trees for permanence and lower future maintenance, not for initial cost!

My selection of trees for this area would include littleleaf linden, red oak, scarlet oak, swamp white oak, English oak, and perhaps the Skyline variety of thornless honeylocust. Which one would be used for a given situation would, of course, depend on the conditions of the site. More information on selection of trees may be obtained from your county extension office. Request pamphlet 43, "Selecting Trees for the Home Grounds."

Another reminder: taper off watering of trees and shrubs, but don't stop watering altogether. By gradually withholding water, your trees and shrubs will be better prepared for winter and may escape damages that can result from an early freeze.

Dr. James R. Feucht

CHILDREN'S GARDEN GRADUATION

The 12th Annual Children's Graduation Program will be at 2:00 p.m., Saturday, September 11, in Horticulture Hall.

Certificates will be awarded to those children who have successfully completed the program. Prizes will be presented to the winners of the best gardens in both the Beginner and Advanced group.

Garden Fair exhibits will be viewed after the graduation program and refreshments will be served. The Children's Garden will also be open at this time for viewing of the individual garden plots.

AFRICAN VIOLET PLANT SALE

The Hi-Hope Study Club is sponsoring an African Violet sale Saturday, September 25 from 9:00 a.m. to 5:00 p.m. in Horticulture Hall at 1005 York Street. For more information, call Mrs. Eldon Johnson at 771-1337 or Mrs. Harry Wolf at 722-7325.

FALL QUARTER CLASSES

The classes for fall quarter at Denver Botanic Gardens will include a variety of subject matter to be pursued. All the classes will meet in the Education Building at 1005 York Street in their designated classrooms unless indicated otherwise. Please call the receptionist at 297-2547 for further information and to register, unless indicated otherwise.

Mr. Ernest Bibee, Superintendent of the Conservatory, will teach *Tropical Plants for House and Garden* beginning Tuesday, September 28 and will continue for 10 weeks. The class will meet on Tuesday and Thursday from 2:00 P.M. — 4:00 P.M. and the maximum enrollment will be 20 — 25. All sessions are scheduled to meet in the East classroom. The fee is \$10.00 for members of Denver Botanic Gardens and \$15.00 for non-members.

The Community College of Denver in conjunction with Denver Botanic Gardens will offer a class, "Floral Design Workshop (UH217)," to be taught by Mr. Lee Ashley beginning Monday, September 27 and continuing throughout the fall quarter. Registration for the class will be held Wednesday, September 22 in the East classroom from 7:30 P.M. — 10:00 P.M. The class will meet on Monday and Wednesday evenings from 6:30 P.M. — 9:30 P.M. in the North classroom and the Preparation room. The class will be limited to 20 — 25 students and will carry 6 hours of college credit. The course is designed to train people to become competent enough so that they may seek employment in the retail floral business or for the students to take the class for personal enrichment. For more information call The Community College, Community and Personal Services, at 287-3311, extension 242.

Dr. William G. Gambill, Jr., Director, will lead a series of one-half day field trips on *Field Identification of Woody Plants of the Denver Area*. The group will meet on Saturday mornings from 9:00 A.M. to 12 Noon on the following dates: September 11, October 2, October 16, October 30. The field trips will originate at the Denver Botanic Gardens House parking lot at 909 York Street and will proceed as a group throughout the Denver area. There is no fee.

A half-day class on *Preparing Garden Soil* will be taught cooperatively between Mr. Knauer, Assistant Director, and Mr. Schell, Education Specialist. The class will meet in the East classroom on Saturday, September 25 from 9:00 A.M. to 12:00 noon. There is no fee. The nature and properties of soil will be explored as well as other factors which make soil the one most important factor between the difference of success and failure in both a vegetable and a landscape garden.

Mr. Knauer will teach a half-day class on *Preparing Your Garden For Winter* Saturday, October 9 and Saturday, November 13 from 9:00 A.M. to 12:00 Noon in the East classroom. There is no fee.

DENVER DAHLIA SOCIETY SHOW

"Dahlias and Diamonds" is the title of the Denver Dahlia Society Show to be held in Horticulture Hall at 1005 York Street Sunday, September 12 from 1:00 p.m. to 4:30 p.m. The show will be divided into the Open class and the Novice class. The Novice class is for people who have never shown dahlias prior to this show. The show is free and open to the public. For more information call Tom Termentozzi, show chairman at 279-1471.

BOETTCHER MEMORIAL CENTER HOURS

The hours for the Boettcher Memorial Center have been stabilized and are as follows:

Conservatory, 9:00 a.m. — 5:00 p.m. daily

Herbarium display area,
9:00 a.m. — 5:00 p.m. daily

Herbarium proper, 9:00 a.m. — 3:00 p.m.
Tuesdays, or by appointment

Library, 9:00 a.m. — 5:00 p.m.
Monday - Saturday

1:00 p.m. — 5:00 p.m. Sunday

Gift shop — 10:00 a.m. — 4:00 p.m.
Monday - Saturday

11:00 a.m. — 4:00 p.m. Sunday

COLORADO GARDEN AND HOME SHOW

Plans are now in the making for the thirteenth annual Colorado Garden and Home Show, to be held at Denver's Currigan Hall, February 4 through 13, 1972. The show co-sponsored by Denver Botanic Gardens and the Home Builders Association of Metropolitan Denver, will be themed "Colorado Internationale '72." Newly elected officers of the Colorado Garden Show, Inc., are Jerry Morris of the Shade Tree Association of the Mountain States; President Jim Feucht, CSU Extension Service; Vice-President, Kenneth Vetting, Colorado Seedman's Association, Treasurer, and Beverly Pincoski of Denver Botanic Gardens, Secretary.

ROSES . . . NEW DEVELOPMENTS

On Thursday evening, September 9 at 8:00 p.m. in Horticulture Hall at 1005 York Street, Mr. H. C. Gundell, Denver County Extension Agent, will speak on "New Development in Roses." The program which is being sponsored by the Denver Rose Society is free and open to the public.

LIBRARY NEWS

The books in the Helen Fowler Library which have up to the present time been classified according to an adaptation of the Cleveland Garden Center's Library system are being reclassified according to the Library of Congress classification scheme. The latter is based on an alphabetical and numerical scheme. Q is Science; QK is Botany; QK100 designates geographical distribution (Plant geography); 139 is the number assigned to Colorado, therefore, *Plants of Rocky Mountain National Park* by Ruth Ashton Nelson would be QK139.N4, the latter letter and digit identifying the author. Should you encounter any difficulty locating a book, please do not hesitate to ask the librarian on duty.

We are waiting the arrival of numerous books which were recently ordered to add to the reference collection.

Volunteers are still needed — especially on Sundays from 1:00 — 5:00 p.m. A professional librarian is present during these hours, but a second person is helpful to greet people, to keep a tally of people coming into the library and those using the library and to answer non-reference questions. Please contact Mrs. Huggins at 297-2547, extension 24, if you are interested.

Patrons who arrive at the library after closing hours will be able to drop their books through the book drop in the new gatehouse, which will be completed in late September. The gatehouse will be located at the main 1005 York Street entrance into the gardens.

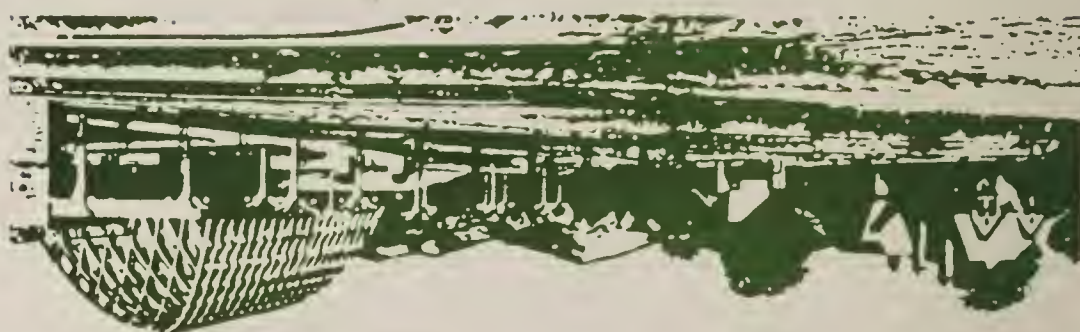
CALENDAR OF EVENTS

SEPTEMBER, 1971

September

1)	9:00 AM	Botanic Gardens House — Parking Lot	Plant Life Field Trip - Dr. Brunquist
2)	* 7:30 PM	Botanic Gardens House — Dining Room	Centennial State African Violet Club
2)	* 7:30 PM	Ed. Bldg., — North Classroom	Bonsai for Beginners - Mr. Fukuma
2)	7:45 PM	Ed. Bldg., — South Classroom	Orchid Society
2)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club - "Climbing The Colorado Fourteens."
7)	* 10:00 AM	Ed. Bldg., — Herbarium Room	Herbarium Committee
7)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
7)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club - Conservation
8)	* 9:30 AM	Botanic Gardens House — Main Room	Botanic Gardens Guild
8)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club — Denver Council
9)	* 1:00 PM	Botanic Gardens House — Main & Dining Room	Washington Park Garden Club
9)	* 7:30 PM	Ed. Bldg., — North Classroom	Bonsai for Beginners - Mr. Fukuma
9)	7:30 PM	Ed. Bldg., — East Classroom	Organic Gardening Club of Denver
9)	8:00 PM	Ed. Bldg., — Horticulture Hall	Denver Rose Society — "New Developments in Roses" (Speaker — Mr. Herbert Gundell)
11)	8:00 AM—5:00 PM	Ed. Bldg., — Horticulture Hall	Children's Garden Fair & Graduation
11)	9:00 AM	Botanic Gardens House Parking Lot	Field Identification of Woody Plants - Gambill
12)	1:00 PM—4:30 PM	Ed. Bldg., — Horticulture Hall	Dahlia Society Show
12)	2:00 PM	Ed. Bldg., — South Classroom	Bromeliad Society
13)	* 10:30 AM	Botanic Gardens House — Main Room	Bowmar Garden Club Speaker — Mr. A. R. Knauer
13)	7:30 PM	Ed. Bldg., — Horticulture Hall	Colorado Mycological Society
14)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee Meeting
15)	8:45 AM	Ed. Bldg., — Horticulture Hall	Jr. League of Denver, Inc., Speaker — Dr. John Blackburn
15)	9:00 AM	Botanic Gardens House — Parking Lot	Plant Life Field Trip - Dr. Brunquist
15)	8:00 PM	Ed. Bldg., — Horticulture Hall	National Junior Horticulture Association Meeting
15)	8:00 PM	Ed. Bldg., — North Classroom	Colorado Bonsai Club
16)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — "Climbing The West Coast Fourteens."
17)	7:30 PM	Ed. Bldg., — Herbarium Room	Botany Club
19)	4:00 PM	Ed. Bldg., — Horticulture Hall	Historic Denver, Inc.
20)	1:00 PM	Ed. Bldg., — Horticulture Hall — Lounge	Library Committee
20)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mycological Society Education Meeting
20)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club - Special Meeting
21)	12:00 Noon	Botanic Gardens House — Main Room	African Violet Council
21)	7:00 PM	Botanic Gardens House — Main Room	Audubon Society
21)	7:30 PM	Ed. Bldg., — Horticulture Hall	Sierra Club
22)	* 11:30 AM	Botanic Gardens House — Dining Room	Sunbonnet Garden Club
22)	* 7:30 PM—	Ed. Bldg., — East Classroom	"Floral Design Workshop" — Registration
23)	* 10:00 AM	Botanic Gardens House — Main Room	Around the Seasons
23)	7:30 PM	Botanic Gardens House — Main Room	Men's Garden Club of Denver
23)	7:30 PM	Ed. Bldg., — North Classroom	Organic Gardening Club of Denver
25)	9:00 AM	Ed. Bldg., — Horticulture Hall	Hi-Hope Study Club — African Violet Sale
25)	9:00 AM	Ed. Bldg., — East Classroom	Preparing Garden Soil - Knauer & Schell
26)	2:00 PM	Ed. Bldg., — East Classroom	Colorado Cactophiles

DENVER BOTANIC GARDENS, INC.
909 YORK STREET • DENVER, COLORADO 80206



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PAID
Permit No. 205
Denver, Colorado

September

- | | | | | |
|-----|---|----------|---|--|
| 27) | * | 6:30 PM— | Ed. Bldg., — North Classroom &
9:30 PM Prep. Room | Floral Design Workshop -
Community College |
| 27) | | 7:30 PM | Ed. Bldg., — East Classroom | Colorado Mycological Society - Education Meeting |
| 28) | * | 2:00 PM | Ed. Bldg., — East Classroom | Tropical Plants For House And Garden - Bibee |
| 28) | * | 4:00 PM | Botanic Gardens House — Main Room | Board of Trustees |
| 28) | | 7:30 PM | Ed. Bldg., — South Classroom | Colorado Mountain Club — Photo Section |
| 29) | | 9:00 AM | Botanic Gardens House — Parking Lot | Plant Life Field Trip - Dr. Brunquist |
| 29) | * | 6:30 PM— | Ed. Bldg., — North Classroom & | Floral Design Workshop — Community College |
| 30) | * | 2:00 PM | Ed. Bldg., — East Classroom | Tropical Plants For House And Garden - Bibee |
| 30) | | 8:00 PM | Ed. Bldg., — Horticulture Hall | Colorado Mountain Club - "The Proposed Indian
Peaks Wilderness Area." |

October

- | | | | | |
|----|---|----------|---|--|
| 1) | * | 11:00 AM | Botanic Gardens House — Main &
Dining Room | Civic Garden Club |
| 1) | | 7:30 PM | Ed. Bldg., — East Classroom | Colorado Mycological Society - Education Meeting |
| 2) | | 9:00 AM | Botanic Gardens House Parking Lot | Field Identification Of Woody Plants - Gambill |
| 2) | | 9:30 AM | Botanic Gardens House — Main Room | Gloxinia Gesneriad Growers |
| 3) | | 2:00 PM | Ed. Bldg., — South Classroom | Bromeliad Organization |

* = For members or enrollees only.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$5.00 a year. Items for publication are welcome. The deadline for copy to the editor is the 15th of each preceding month of publication. Editor — James M. Schell, 297-2547, Ext. 23.



OCTOBER GARDENING TIPS

Fall is a very important time of year as far as the home garden is concerned. In addition to the usual chores of raking up leaves and cleaning out flower beds, now is a good time to rebuild the soil with the compost made the past season and begin a new pile with the leaves and other vegetative debris removed from the yard.

Spading compost into the soil now rather than in spring has the advantage of letting nature do a lot of the work. Leave the soil loose and lumpy. This allows better moisture penetration in winter, and the alternate freezing and thawing action will gradually break the clods down. In spring, the soil will then be easy to work.

Take advantage of this time of year, too, to replan and replant the garden. For early masses of color, plant the spring-flowering bulbs now.

While it is a bit late to purchase bulbs through mail-order sources, local nurseries and garden centers have good selections. Buying locally has the advantage of being able to select bulbs individually particularly when they are sold in bulk (out of open bins) rather than pre-packaged.

When selecting bulbs, it is generally best to choose the largest size available of the type or variety. One exception would be hyacinths. In this case, the largest sizes (7½" circumference and larger) are best for forcing. Top size for garden use is about 6½" circumference. Avoid those which have been bruised, cut or have molds on them.

Bulbs can be used nearly anywhere in the yard. The "little bulbs" such as crocus, species tulips, grape-hyacinth, squill, glory-of-the-snow (*Chionodoxa*) and snowdrops are especially suited for the rock garden, beneath trees and shrubs or even "naturalized" in the lawn. Squills and snowdrops are best used in shaded locations.

Tulips and narcissus (daffodils) are the most showy when used in massed plantings. In the case of tulips, try planting solid blocks of one variety rather than a mixture of colors. The display will be much more spectacular.

In general, bulbs are not too fussy about the soil, but will not tolerate poor drainage. Avoid low spots where the soil tends to become "waterlogged."

When planting bulbs, depth as well as spacing are important. The planting chart below can be used as a guide. The chart is based upon well-drained soils of sandy plus clay loam type. When planting in more clayey soils, plant bulbs one or two inches closer to the soil surface.

To prevent frost heave of shallow bulbs and to delay sprouting in the spring, apply two to three inches of a mulch to the soil surface *after* the ground has frozen. Almost any type of partially decayed organic matter is suitable.

What about using the so-called "bulb starter" fertilizer? This is really more "hokus pokus" than anything else. Bulbs have stored in them all of the food needed to get started and require nothing more except moisture and the right temperatures for growth. Some fertilizer added after the first year might be helpful, however, in "building" new bulbs. But avoid strong nitrogen applications.

October is the ideal time to apply fertilizer to your lawn and also to trees and shrubs. Bluegrass is a cool season grass

and during spring and fall much of the growth of new rhizomes (tillers) takes place. A fertilizer with 20-10-5 analysis applied to supply about two pounds of nitrogen per 1,000 square feet will help make the lawn thicken providing you keep mowing height at two inches. (A 40 pound bag of 20-10-5 fertilizer contains eight pounds of nitrogen or will cover 4,000 square feet of lawn.)

No need to worry about fertilizer applications to trees and shrubs producing "soft growth" at this time. Woody plants are now far enough into dormancy that fertility cannot stimulate new growth. The plants can still utilize the nutrients, however.

One final note on bulbs. Next month this column will describe how to force bulbs indoors for winter enjoyment. Save a few bulbs for this purpose. Simply store them *dry* in the refrigerator until forcing time.

Dr. James R. Feucht

1"	BULB PLANTING CHART				
2"	Numbers in parentheses refer to minimum spacing				
3"					
4"	Crocus (4")	Squill (4")	Glory-of-the-Snow (3")	Snowdrop (3")	
5"					
6"	Hyacinth (6"-8")	Autumn Crocus (Colchicum) (4")	Bulbous Iris (4"-5")	Grape-hyacinth (3"-4")	
7"		Early Tulips (6")			
8"				Lily (base-rooting) (8"-12")	
9"		Late Tulips (6"-8")			
10"	Lily (stem-rooting) (8"-12")		Narcissus (Daffodil) (6"-8")		

LECTURE SERIES

The first lecture in the 1971-72 series of lectures sponsored by the Education Committee of the Denver Botanic Gardens will be held Wednesday, October 6 at 8:00 P.M. in Horticulture Hall at 1005 York Street. The lectures are free and open to the public.

Dr. Helen M. Zeiner, botanist, will speak on "Wildflowers - Getting to Know Them." The talk will be illustrated with color slides. Dr. Zeiner is very qualified as she is thoroughly informed on the native flora. At Denver Botanic Gardens she is chairman of the Herbarium Committee and is a member of the Editorial and Education committees. Dr. Zeiner is a regular contributor to *The Green Thumb* magazine and assists with spring and summer area field trips to study wild flowers.

Next month's lecture (November) will be presented by Marion and Gordon Alexander. Their talk will be held Thursday, November 11, and the title is "A Garden Tour in Britain." It will emphasize rock gardening.

LOOKED AT THE TREES LATELY?

Look around you. What do you see? Some rather naked-looking trees? Some trees missing here and there? This has been quite a year in Denver and other communities because we have been plagued with more than one shade tree problem.

Perhaps the most publicized problem is Dutch elm disease, which threatens to destroy many thousands of American elms. Lest you draw a quick conclusion, as some have, that we are going to lose all our elm trees, let me hasten to assure you that this is not so. Dutch elm disease is a serious problem, and in the 40 years it has been in the U. S., about one million trees are killed each year. Yet, even in communities that have been fighting it all these years there are healthy specimens of American elm still standing. The American elm as a species is not really doomed, but we are going to lose some of the shady boulevards which have been a part of Denver since the early Thirties.

To look at the brighter side, Dutch elm disease has, in some ways, done us a favor. Never before have people, communities and even governmental agencies been so aware of the value of trees. Never before have they realized that a variety of species should be planted in a city rather than planting allees of one species only to be endangered by one disease.

Also on the bright side is the fact that several universities have been working in an almost crash program to discover ways of curing the elm disease. Through financial support of the Elm Research Institute, several non-pesticidal controls of the beetle which spreads the disease and even a promising fungicide to stop the disease may soon be available for our use. Probably the first effective non-pesticidal control for the beetle, in addition to the usual sanitation now practiced, will be a beetle attractant. Such a chemical can be placed in traps, drawing the beetles to it and thus destroying the principal vector. No, all hope is not lost for our elms. With controls just around the corner, citizens in any community which contains elms and threatened with Dutch elm disease, should continue to practice intensive sanitation. Clean up the breeding sites of the beetle, dead and dying elm wood, and apply dormant sprays of Methoxychlor on selected trees. In doing so you can effectively slow down the disease spread. Trees lost in the meantime can be replaced, but on a gradual basis rather than all at once.

Dr. James R. Feucht

FALL QUARTER CLASSES

It is not too late to register for the following classes at the Denver Botanic Gardens. Dr. William G. Gambill's class, *Field Identification of Woody Plants of the Denver Area*, to be held on October 2, 16, and 30; Mr. Knauer's class, *Preparing Your Garden For Winter*, to be held Saturday, October 9 and repeated Saturday, November 13. For more information and to register, call the receptionist at 297-2547.

INVITATION

You are cordially invited to attend the Denver Botanic Gardens "Open Garden Day" to be held Sunday, October 10 from 12:00 to 4:00 P.M. The purpose of the event is to familiarize all who are concerned with the progress and future plans for the "outside" gardens.

LIBRARY NEWS

It was gratifying to have such a warm response from our members who called for information on becoming library volunteers. If anyone is still interested please contact Mrs. Huggins, 297-2547, ext. 24.

Several of the reference books which had been ordered have arrived:

Roberts, H. F. — *Plant Hybridization Before Mendel* — Hafner, 1965. \$9.95.

Stearn, William T. — *Botanical Latin* — Hafner, 1966. \$16.75.

Faegri, Knut and Johs, Iversen — *Textbook of Pollen Analysis* — Hafner, 1964. \$6.25.

Clausen, Jens — *Stages in the Evolution of Plant Species* — Hafner, 1967. \$5.95.

Seward, A. C. — *Plant Life Through the Ages* — Hafner, 1966. \$14.95.

The following acquisitions are new books on landscaping and man's relationship with his environment:

Brookes, John — *Room Outside* — Viking, 1970. \$6.95.

Lees, Carlton B. — *Gardens, Plants and Man* — Massachusetts Horticultural Society, 1971. \$19.95.

Kenfield, Warren G. — *The Wild Gardener in the Wild Landscape* — Hafner, 1970. \$7.50.

The library staff and the Botanic Gardens staff are grateful for the many gifts which have been received from generous patrons during the past month. Among these are:

Keble-Martin, W. — *The Concise British Flora In Color* — Holt, Rinehart and Winston, 1965.

Gibbons, Euell — *Stalking the Good Life* — McKay, 1966.

Gibbons, Euell — *Stalking the Blue-eyed Scallop* — McKay, 1964.

Graff, M. M. — *Flowers in the Winter Garden* — Doubleday, 1966.

Grasby, Nancy — *Imaginative Small Gardens* — Hearthsides, 1963.

Added to the collection for young gardeners:

Jordan, Helene J. — *How A Seed Grows* — Crowell, 1962. \$3.75.

Jordan, Helene J. — *Seeds By Wind and Water* — Crowell, 1962. \$3.75.

Selsam, Millicent E. — *Milkweed* — Morrow, 1967. \$3.50.

Earle, Olive L. — *Praying Mantis* — Morrow, 1969. \$3.75.

Earle, Olive L. — *The Strangler Fig and Other Strange Plants* — Morrow, 1967. \$3.75.

ANNUAL CHRISTMAS SALE

The Denver Botanic Gardens Gift Shops' annual pre-Christmas sale is scheduled for Friday, November 19 and Saturday, November 20. Sponsored by the Associates the sale will be held in the shop and the Conservatory lobby at 1005 York Street. A variety of items will be featured so plan to attend this sale.

APOLOGY TO MEMBERS

Due to an oversight at the printers, a few copies of the September (Number 71-9) *Green Thumb Newsletter* appeared with a blank inside page. If any member has received such a copy (blank) please inform this office and a complete Newsletter will be mailed to you. Again, our apologies.

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CALENDAR OF EVENTS

OCTOBER, 1971

October

1)	10:00 AM	Ed. Bldg., — Prep. Room	Ikebana International Workshop
1)	*11:00 AM	Botanic Gardens House — Main Room & Dining Room	Civic Garden Club
1)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mycological Society
2)	9:00 AM	Botanic Gardens House — Parking Lot	Field Identification of Woody Plants — Dr. Gambill
2)	9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
3)	2:00 PM	Ed. Bldg., — South Classroom	Bromeliad Organization
4)	* 6:30 to 9:30 PM	Ed. Bldg., — North Classroom & Prep. Room	Floral Design Workshop — Community College — Mr. Ashley
5)	*10:00 AM	Ed. Bldg., — Herbarium Room	Herbarium Committee
5)	* 1:00 PM	Botanic Gardens — Dining Room	Editorial Committee
5)	* 2:00 to 4:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
5)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club — Conservation
6)	9:00 AM	Ed. Bldg., — Horticulture Hall	"We Care" — Film
6)	* 6:30 to 9:30 PM	Ed. Bldg., — North Classroom & Prep. Room	Floral Design Workshop — Community College — Mr. Ashley
6)	8:00 PM	Ed. Bldg., — Horticulture Hall	Lecture Series — "Wildflowers — Getting To Know Them" — Dr. Zeiner
7)	* 2:00 to 4:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
7)	* 5:30 PM	Ed. Bldg., — Horticulture Hall	Iris Society — (Catered dinner)
7)	7:45 PM	Ed. Bldg., — South Classroom	Orchid Society
8)	7:30 PM	Botanic Gardens House — Main Room — Dining Room	Dahlia Society
8)	10:00 AM	Ed. Bldg., — Prep. Room	Ikebana International Workshop
9)	9:00 AM	Ed. Bldg., — East Classroom	Preparing Your Garden for Winter — Mr. Knauer
11)	* 6:30 to 9:30 PM	Ed. Bldg., — North Classroom & Prep. Room	Floral Design Workshop — Community College — Mr. Ashley
11)	7:30 PM	Ed. Bldg., — South Classroom	Colorado Mycological Society
12)	2:00 to 4:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
12)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
13)	* 9:30 AM	Botanic Gardens House — Main Room	D.B.G. Guild
13)	* 6:30 to 9:30 PM	Ed. Bldg., — North Classroom & Prep. Room	Floral Design Workshop — Community College — Mr. Ashley
13)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club — Denver Council
14)	* 2:00 to 4:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
14)	7:30 PM	Ed. Bldg., — North Classroom	Organic Gardening Club of Denver
14)	8:00 PM	Ed. Bldg., — South Classroom	Denver Rose Society — Dr. Gambill, Speaker
14)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Photographic Exhibition
15)	10:00 AM	Ed. Bldg., — Prep. Room	Ikebana International Workshop
15)	7:30 PM	Ed. Bldg., — Herbarium Room	Botany Club
16)	9:00 AM	Botanic Gardens House — Parking Lot	Field Identification of Woody Plants — Dr. Gambill
18)	* 1:00 PM	Ed. Bldg., — Horticulture Hall — Lounge	Library Committee
18)	* 6:30 to 9:30 PM	Ed. Bldg., — North Classroom & Prep. Room	Floral Design Workshop — Community College — Mr. Ashley
18)	7:30 PM	Ed. Bldg., — South Classroom	Colorado Mycological Society
19)	* 2:00 to 4:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
19)	7:00 PM	Botanic Gardens House — Main Room	Audubon Society
19)	7:30 PM	Ed. Bldg., — Horticulture Hall	Sierra Club
20)	* 6:30 to 9:30 PM	Ed. Bldg., — North Classroom & Prep. Room	Floral Design Workshop — Community College — Mr. Ashley
20)	7:30 PM	Ed. Bldg., — South Classroom	Colorado Bonsai Club
21)	* 2:00 to 4:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
24)	2:00 PM	Ed. Bldg., — East Classroom	Colorado Cactophiles

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| 26) | * 2:00 to 4:00 PM | Ed. Bldg., — East Classroom | Tropical Plants for House & Garden — Mr. Bibee |
| 26) | 7:30 PM | Ed. Bldg., — North Classroom | Colorado Mountain Club — Photo. Section |
| 26) | 7:30 PM | Ed. Bldg., — South Classroom | Gladiolus Society |
| 27) | * 6:30 to 9:30 PM | Ed. Bldg., — North Classroom & Prep. Room | Floral Design Workshop — Community College — Mr. Ashley |
| 27) | 8:00 PM | Ed. Bldg., — Horticulture Hall | National Junior Horticulture Society |
| 28) | * 2:00 to 4:00 PM | Ed. Bldg., — East Classroom | Tropical Plants for House & Garden — Mr. Bibee |
| 28) | 7:30 PM | Ed. Bldg., — North Classroom | Organic Gardening Club of Denver |
| 28) | 7:30 PM | Botanic Gardens House — Main Room | Men's Garden Club of Denver |
| 28) | 8:00 PM | Ed. Bldg., — Horticulture Hall | Colorado Mountain Club — Winter Sports Schedule Preview — Helen Gaudreau |
| 29) | 10:00 AM | Ed. Bldg., — Horticulture Hall & Prep. Room | Ikebana International Workshop |
| 30) | 9:00 AM | Botanic Gardens House — Parking Lot | Field Identification of Woody Plants — Dr. Gambill |

November

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|----|-------------------|---|--|
| 1) | * 6:30 to 9:30 PM | Ed. Bldg., — North Classroom & Prep. Room | Floral Design Workshop — Community College — Mr. Ashley |
| 2) | * 10:00 AM | Ed. Bldg., — Herbarium Room | Herbarium Committee |
| 2) | * 1:00 PM | Botanic Gardens House — Main Room | Editorial Committee |
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| 2) | 7:30 PM | Ed. Bldg., — East Classroom | Colorado Mountain Club — Conservation |
| 3) | * 6:30 to 9:30 PM | Ed. Bldg., — North Classroom & Prep. Room | Floral Design Workshop — Community College — Mr. Ashley |
| 4) | * 2:00 to 4:00 PM | Ed. Bldg., — East Classroom | Tropical Plants for House & Garden — Mr. Bibee |
| 4) | 7:45 PM | Ed. Bldg., — South Classroom | Orchid Society |
| 5) | 10:00 AM | Ed. Bldg., — Prep. Room | Ikebana International — Workshop |
| 5) | 11:00 AM | Botanic Gardens House — Main Room & Dining Room | Civic Garden Club |
| 5) | 5:00 PM | Ed. Bldg., — Lobby Court & Foyer & Surrounding Area | Orchid Society Show (Thru Nov. 14th) |
| 6) | 9:00 AM | Ed. Bldg., — Lobby Court — Foyer & Surrounding Area | Orchid Society Show |
| 6) | 9:30 AM | Botanic Gardens House — Main Room | Gloxinia Gesneriad Growers |
| 7) | 2:00 PM | Ed. Bldg., — South Classroom | Bromeliad Organization |
| 7) | 2:00 PM | Ed. Bldg., — Horticulture Hall | English Speaking Union — Tour Movie — "Famous English Gardens" |

* = For members or enrollees only.

NOVEMBER GARDENING TIPS

Gardening in November? Why not? Perhaps one of the most challenging and also rewarding things that can be done between now and spring is to force bulbs into bloom for indoor enjoyment. The real challenge lies in trying to get them into bloom on predetermined dates — Christmas, Valentine's Day, Easter, etc. If you have stored some bulbs in the refrigerator, as suggested in last month's column, you are well on your way to getting some indoor color.

Before going into the procedures used to force bulbs, let's first examine part of the "typical" life cycle of a spring bulb. Knowing this helps to understand how we can force them into early bloom.

First of all, a bulb is really a bud on a very short stem. When you buy them in the fall, they are ready to grow and, if of adequate size, already have the flowers in them. For this reason, some refer to bulbs as "nature's prepackaged flowers."

When a bulb is placed into the cool, moist soil in the fall, it begins to develop roots almost immediately. The soil temperature is a fairly constant 48°F–50°F, depending somewhat on depth. This is the ideal temperature for achieving good rooting. After a period of rooting and required cool temperatures, the "bud" begins to elongate within the protective outer layer of leaf bases (scales). Most tulips need 13 to 15 weeks of cold treatment and rooting period before they will begin bud elongation. Hyacinths need less cold and may begin bud elongation after only 6-8 weeks at cool temperatures. Outdoors, however, bulbs will not continue to elongate the flowering shoot at a rapid pace because the soil *usually* remains too cool. In any case, most spring flowering bulbs are capable of flowering after mid-January or even before. In years when the soil is warmed up too early, shoots often emerge in early February only to be injured by a freeze.

Forcing bulbs into early bloom is really nothing more than duplicating nature's cool periods with bulbs planted in a manner to facilitate easy handling indoors. The best method is to place the bulbs in the flower pot or other container in which you wish them to bloom. Containers must have drainage at the base. Use a well-drained, sandy soil for the supporting medium for best results. Place bulbs in the soil so that their points are slightly exposed. Mark the date of planting on a wooden label, water them and place the pot in a dark location which maintains 48°F–50°F.

The inside wall of unheated, attached garages usually maintains these temperatures until outside temperatures go well below zero. Another method is to plunge the pots in an outside trench 15" deep. The trench is then filled with lightweight cinders or similar material and topped with straw.

After about eight weeks for hyacinths and 15 weeks for tulips, bring pots indoors to a cool, dark location. The unheated portion of a basement or crawl space is ideal. Temperatures should not be above 60°F, if possible, nor lower than 50°F. Sprouting of the bulbs will begin. As sprouts develop and flower buds appear, move pots to a lighted room but away from direct sunlight and heaters.

With hyacinths, you can have bloom in 14-18 days, daffodils in 20-25 days, and tulips in 25-40 days, depending upon type.

Perhaps you don't wish to fuss with the procedures described. You can still have bulbs in bloom indoors by purchasing the preconditioned, tender bulbs such as Paper-white Narcissus, *Narcissus tazetta* or prepackaged and conditioned hyacinths. These come with simple instructions for growing either in the package itself or in shallow, gravel-filled trays. You will still need to provide a cool rooting period, but the requirements are not as critical nor the rooting period as long as with tulips and other hardy bulbs.

November is a good time to do a little pruning of shrubs and small trees in the yard. Look for and remove interfering branches, branches broken in the September 17 snowstorm, and weak sprouts. It is easier to see them and to see what you are doing now that the leaves have fallen.

Evergreens can also be pruned now, but some prefer to wait until just before Christmas and use the "greens" for decorations.

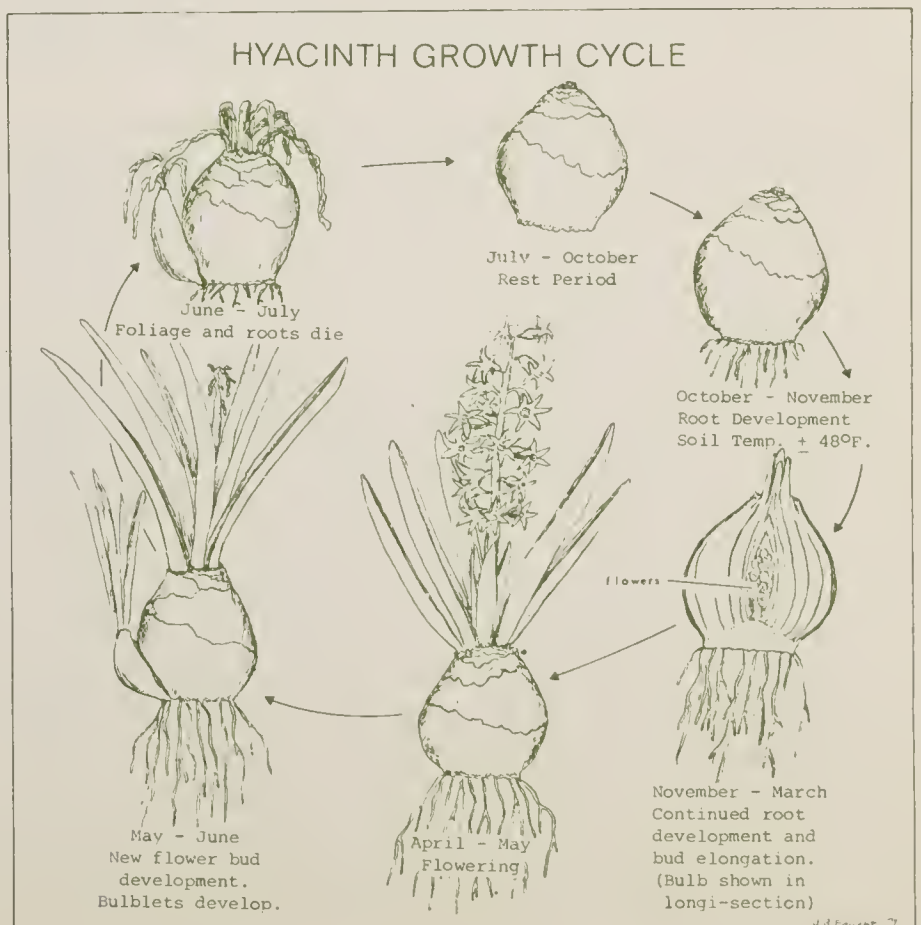
For more complete pruning tips, request your free copies of C.S.U.'s Service-in-Action (S/A) leaflets on pruning evergreens, shrubs and deciduous trees from Dr. J. R. Feucht.

If you have not mounded your roses yet, do so now. Use a loose, well-drained soil or, better yet, some of the compost from your pile. Tops should be cut back only slightly, just enough to give them a neat, tidy look.

Keep birds around your yard all winter with a ready supply of bird seed placed in a feeding station.

Happy bulb forcing!

Dr. J. R. Feucht



GIFT SALE

CHRISTMAS IS Coming. November 19 and 20 are the dates for the 8th annual pre-Christmas sale, sponsored by Associates of Denver Botanic Gardens. Horticulture Hall will be transformed into Holiday Hall for easy gift shopping. Botanic Gardens Gift Shop, in its jewel box setting near the Conservatory entrance, will be the Holiday Gift Annex with hours 10 a.m. to 4:30 p.m. both Friday and Saturday.

CHRISTMAS IS:

- *Fragrances.* Tranquility pillows filled with potpourri; terrariums planted with herbs for cooking or for fragrance; dainty oil cans painted and ribboned for the bath; pomander kits in festive baskets; Colorado grown and dried herbs tucked into calico bags; cinnamon stick flower pots and scented geraniums are new discoveries. Tussie Mussie Mesdames have prepared potpourri kits in heavenly scents.
- *For Children.* Delightful hazelnut dolls in old-fashioned dress, early American dollhouse furniture, toys and gum-parkers are available as well as Beatrix Potter's books, figurines and puzzles.
- *Trimming the Tree.* The ornaments of milkweed silk that adorned the Gardens' Christmas tree last year will be cherished gifts. Glass ornaments filled with tiny arrangements or holiday scenes; colorful decorations of woven grass by South American children; and Brockman's ceramic angels, candy stores, birds-in-nests are new arrivals.
- *Handcrafts.* Heritage wreaths on woven trays may be hung or used with candles for table pieces; glass paper weights contain miniature creches; candle rings, traditional and contemporary table arrangements have been fashioned by volunteer craftsmen for this sale.
- *Books.* More than 400 titles which cover gardening, wildflowers, house plants, mushrooms and conservation are gifts forever. A few popular volumes are: *Merry Christmas Herbal*, Simmons; *Japanese Flower Arranging—Ikebana*, March-Penny; *Pictorial Checklist of Colorado Birds*, Bailey and Niedrach; *Pocket Encyclopedia of Cacti*, Lamb. A few illustrations by Ann Zwinger are available as well as her *Beyond the Aspen Grove*.
- *Making Holiday Decorations.* Cones, pods, dried materials—ingredients for yuletide treasures have been assembled by members of Around the Seasons Club for their project. A few popular items are golden yarrow, teasel, translucent moneyplant and starry gasplant plus sweet gum balls, tiny larch cones and acorns.
- *Herb Vinegar.* Herbs, grown and collected from the Herb Garden at Botanic Gardens, have been brewed from a secret formula by members of Botanic Gardens Guild. This year, for the first time, bottles of delicately flavored vinegar can be purchased during the sale.
- *Gifts from Here and There.* Swedish cornhusk dolls; French earthenware, brass and copper candlesticks and snuffers; Italian cache pots; hand-carved tableaus, porcelain figurines; statuary; hand-blown glass carafes, ice buckets; Kashmir boxes lacquered in vivid floral and animal motifs; all have been chosen especially for this event.
- *Nice 'n Easy* with a sparkling hyacinth glass and bulb. The receiver needs add only water, time, and enthusiasm to watch it blossom.

- *Candles.* To enhance an entry or provide an impressive accent 36-inch tapers in bright colors or subdued are new this year. Some handcrafted candles will also be offered.

CHRISTMAS IS for Denver Botanic Gardens, according to these dedicated volunteers, "A gift *from* the Gardens is a gift *to* the Gardens."

LECTURE SERIES

Marion and Gordon Alexander will speak on "A Garden Tour in Britain" Thursday, November 11 at 8:00 p.m. in Horticulture Hall at 1005 York Street. The talk will emphasize Rock Gardening. Dr. Gordon Alexander received his A.B. degree from Central College in Fayette, Missouri and his A.M. and Ph.D. from Princeton. Dr. Alexander was a visiting biology professor at Bangkok, Siam for two years and also a Fulbright lecturer at Bangkok, Thailand for one year. He is retired Head, Department of Biology at the University of Colorado. For many years Dr. Alexander's research interest has been in-depth studies of altitudinal distribution patterns of grasshoppers in Colorado. He is a member of many professional scientific societies. Also, for many years Dr. and Mrs. Alexander have been interested in Rock Gardening and have been avid gardeners at their own home.

Dr. J. W. Brewer, assistant professor of entomology at Colorado State University, will speak on "Approaches To Insect Control" on Thursday, December 9. Dr. Brewer's main interest is in insects of ornamental plants and, thus, the emphasis of his lecture will be on insects affecting ornamentals (both biological and chemical control of such.)

DENVER ORCHID SOCIETY SHOW

The Denver Orchid Society members will display their orchids for the enjoyment of flower lovers November 6 through November 14, from 9:00 a.m. to 5:00 p.m. daily in the Conservatory Lobby Court of the Denver Botanic Gardens at 1005 York Street. All types of orchids will be featured in a simulated native habitat. There will be about 400 plants on display, possessing different shapes, colors, sizes and plant forms. The display is free and open to the public.

In conjunction with the above show, Mrs. Rebecca Northen, the author of *Home Orchid Growing* and *The Ingenious Kingdom* (her most recent publication), will be present at an "Autograph Party." The autographing of the textbooks will take place in the Conservatory Lobby Court on Sunday, November 7 from 2:00 – 4:00 p.m.

NEWS FROM AROUND THE GARDENS

- The "Open Garden Day" which was held Sunday, October 10 was attended by about 5,000 people. This day gave the public an opportunity to see what has taken place in the outside gardens in the past year or two and also to be able to ask questions about the future plans.

RESIGNATION

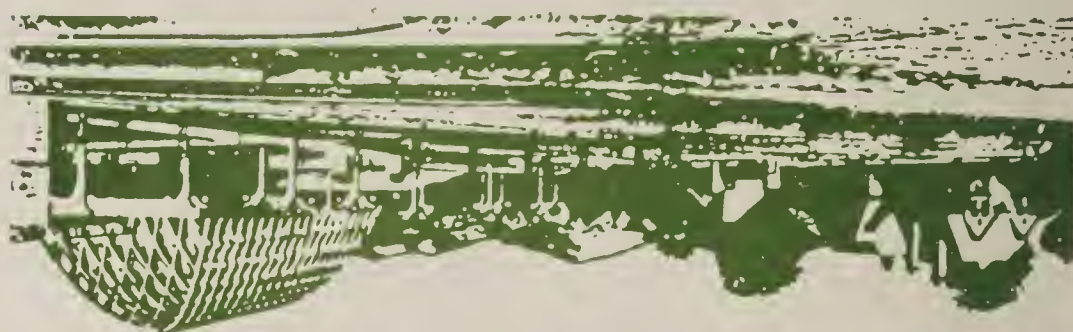
This note is to inform you that Mr. James M. Schell, *Green Thumb Newsletter* editor and Horticultural Education Specialist at Denver Botanic Gardens, will resign effective October 27, 1971. He has accepted another position which will enable him to complete his Ph.D. degree requirements at Kansas State University.

CALENDAR OF EVENTS

NOVEMBER, 1971

November

1)	* 6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
2)	*10:00 AM	Ed. Bldg., — Herbarium Room	Herbarium Committee
2)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
2)	* 2:00 PM	Ed. Bldg., East Classroom	Tropical Plants for House & Garden — Mr. Bibee
2)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club — Conservation
3)	* 9:00 AM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
3)	* 6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
4)	* 2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
4)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Slides — New Zealand
5)	*10:00 AM	Ed. Bldg., — Prep Room	Ikebana International Workshop
5)	*11:00 AM	Botanic Gardens House — Main Room & Dining Room	Civic Garden Club
5)	5:00 PM	Ed. Bldg., — Lobby Court — Foyer & Surrounding Area	Orchid Society Show (Thru November 14th)
5)	7:00 PM	Ed. Bldg., — South Classroom	Orchid Society
6)	9:00 AM	Ed. Bldg., — Lobby Court — Foyer & Surrounding Area	Orchid Society Show
6)	9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
7)	2:00 PM	Ed. Bldg., — South Classroom	Bromeliad Organization
7)	2:00 PM	Ed. Bldg., — Horticulture Hall	English Speaking Union — Tour — Movie - "Famous English Gardens"
8)	* 6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
8)	7:30 PM	Botanic Gardens House — Main Room & Dining Room	Colorado Mycological Society
9)	* 2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
9)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
10)	9:00 AM	Ed. Bldg., — South Classroom	C.S.U. — Vermeer Workshop — Moving large trees — Dr. Feucht
10)	* 9:00 AM	Botanic Gardens House — Main — Dining & Kitchen	D.B.G. Guild — Bottle vinegar
10)	* 9:00 AM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
10)	* 6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
10)	7:30 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Program
10)	8:00 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club — Denver Council
11)	* 2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
11)	7:30 PM	Ed. Bldg., — North Classroom	Organic Gardening Club of Denver
11)	8:00 PM	Ed. Bldg., — Horticulture Hall	Lecture Series — "A Garden Tour of Britain" — Marion & Gordon Alexander
12)	*10:00 AM	Ed. Bldg., — Prep Room	Ikebana International Workshop
12)	7:30 PM	Botanic Gardens House — Main — Dining Room & Kitchen	Dahlia Society
13)	9:00 AM	Ed. Bldg., — East Classroom	Preparing Your Garden For Winter — Mr. Knauer
13)	* 6:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Annual Banquet — Catered Dinner
14)	9:00 AM	Ed. Bldg., — Lobby Court — Foyer & Surrounding Area	Orchid Society Show (LAST DAY)
15)	* 1:00 PM	Ed. Bldg., — Horticulture Hall — Lounge	Library Committee
15)	* 6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
16)	*12:00 Noon	Botanic Gardens House — Main Room	African Violet Council
16)	* 2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
16)	7:00 PM	Botanic Gardens House — Main Room	Audubon Society
16)	7:30 PM	Ed. Bldg., — Horticulture Hall	Sierra Club
17)	9:00 AM	Ed. Bldg., — Horticulture Hall	Jr. League of Denver, Inc.
17)	* 9:00 AM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
17)	* 6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
17)	7:30 PM	Ed. Bldg., — South Classroom	Colorado Bonsai Club
17)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — "Magnificent Rockies — New Mexico to Canada"
18)	10:00 AM	Ed. Bldg., — South Classroom	Ikebana International Workshop
18)	10:00 AM	Botanic Gardens House — Main Room	Ikebana International
18)	*10:00 AM	Botanic Gardens House — Dining Room — Kitchen — Downstairs	Around the Seasons — Workshop for Gift Sale

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18)	* 2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
18)	7:30 PM	Botanic Gardens House — Main Room	Men's Garden Club of Denver
19)	9:00 AM	Ed. Bldg., — Horticulture Hall	Gift Shop Christmas Sale
19)	*10:00 AM	Botanic Gardens House — Main Room	Ikebana International
19)	7:30 PM	Ed. Bldg., — East Classroom	Botany Club
20)	9:00 AM	Ed. Bldg., — Horticulture Hall	Gift Shop Christmas Sale
22)	* 6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
23)	* 2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
23)	* 4:00 PM	Botanic Gardens House — Conference Room	Board of Trustees
23)	7:30 PM	Ed. Bldg., — South Classroom	Gladiolus Society
24)	* 9:00 AM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
24)	* 6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
25)	* 2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
28)	2:00 PM	Ed. Bldg., — East Classroom	Colorado Cactophiles
29)	* 6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
30)	* 2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
30)	7:30 PM	Ed. Bldg., — South Classroom	Colorado Mountain Club — Photo Section
December			
1)	9:00 AM	Botanic Gardens House	D.B.G. Guild — Bottle Vinegar
1)	* 9:00 AM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
1)	* 6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
1)	7:30 PM	Botanic Gardens House — Main Room	Colorado Citizens for Clean Air
2)	10:00 AM	Botanic Gardens House — Dining Room	Division A Garden Club
2)	* 2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
2)	7:45 PM	Ed. Bldg., — South Classroom	Orchid Society
2)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club "Dinosaur National Monument"
3)	11:00 AM	Botanic Gardens House — Main & Dining Rooms	Civic Garden Club
5)	2:00 PM	Ed. Bldg., — South Classroom	Bromeliad Organization

* = For members or enrollees only.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$5.00 a year. Items for publication are welcome. The deadline for copy to the editor is the 15th of each preceding month of publication. Editor — James M. Schell, 297-2547, Ext. 23.



GARDENING TIPS FOR DECEMBER

When you buy a Christmas tree, what do you look for? Symmetrical shape? Unbroken branches? Spacing of branches? These are all important and should be considered in your final decision. But, before anything else, check the kind of tree you are buying and try to find out when and where the tree was obtained.

The type of tree you select can have a bearing on how long it will last when taken indoors. The longer a tree remains green and full of moisture the safer it will be in your home. Some of the more common Christmas trees sold in this area include Douglas-fir, concolor or Colorado fir, Scots (Scotch), red, Austrian and white pines, blue spruce and black spruce. Some of these species are ideal Christmas trees because the needles remain on them for long periods of time. Some will not drop their needles even after becoming dry, as in the case of pines. To tell them apart, simply look at the needle attachment and arrangement.

Pines are easy to distinguish from spruce, fir and Douglas-fir in that the needles are in clusters of twos, threes and up to five, depending upon the species. At the base of the needles is a short, woody stalk and a papery sheath. To tell a true fir (*Abies*) from a Douglas-fir (*Pseudotsuga*), examine the base of the needle and note that in a true fir the needles are attached by a circular cushion which clings tightly to the branch. The needles of a true fir are also curved upward and the buds, particularly those at the tips, are rounded and covered with a sticky resin. Douglas-fir needles are attached by a slender, light-green stalk to what appears to be a slight swelling or "shelf" on the twig. The needles are generally in a spiral arrangement, but most distinctive of all are the buds. These are long-pointed, reddish-brown in color and free of a resinous coating.

Spruce, particularly black spruce, are the least desirable as Christmas trees for two reasons: (1) Many of them have sharp pointed needles and, (2) the needles tend to shed even in a recently cut tree. To tell the spruce from other evergreens, look at the base of the needle and you will note that they are attached to a short, woody stalk. The needles are also usually triangular or square in cross-section. When the needles become slightly dry, normally those on the inside first, they separate at the point of attachment.

Keeping cut trees fresh is a must in order to reduce fire hazards. When trees are harvested (often as early as September), they begin to lose moisture. In warm air they may lose 90 percent of their moisture in a 15-20 day period.

To retain freshness, buy early and immerse the tree base in water. Before immersing, make a new cut at the base, removing 2-3 inches of the trunk. Store tree out-of-doors in a shaded location. An unheated garage or on the north side of a building is suitable. Replenish water as needed.

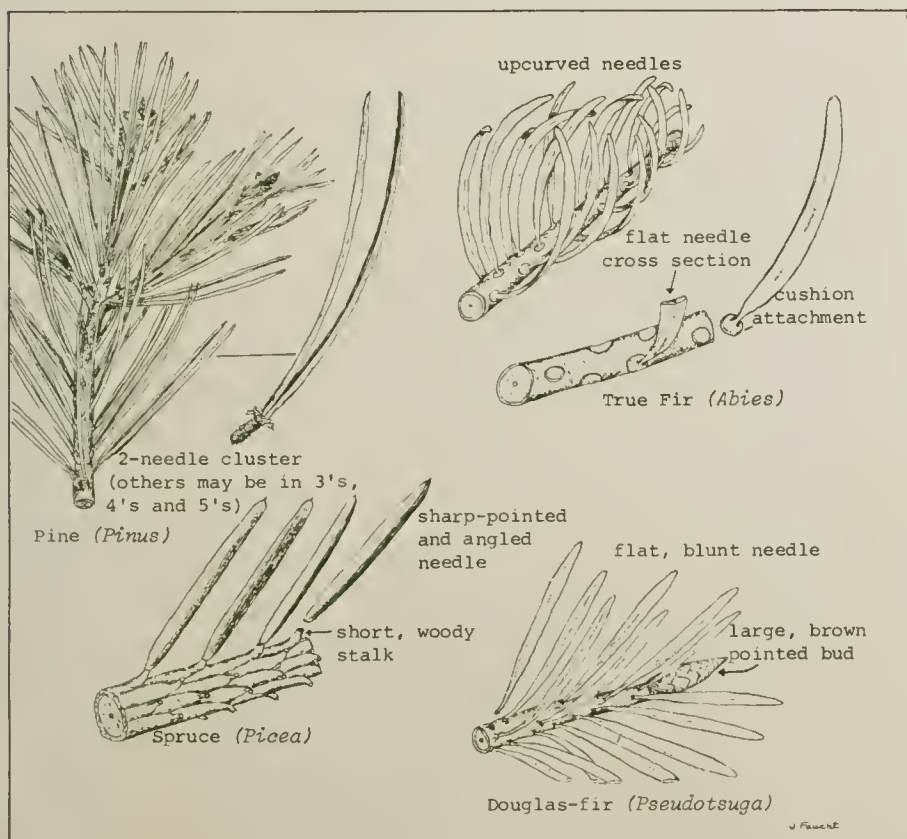
When the tree is brought indoors, keep base in the container. A bucket of gravel and water is ideal since it is also heavy enough to prevent tipping of the tree. Most commercial tree stands do not have a large enough water reservoir.

Perhaps you would prefer to use a living Christmas tree this year. Success in using a living tree depends largely upon the preparation of the ground so that it can be successfully transplanted shortly after Christmas. If you plan to use a living tree, place a generous mulch 6 to 8 inches in depth in the area in which you wish to place the tree in order to prevent freezing of the soil. You can also dig a hole now or when the ground is thawed and fill hole with manure or old leaves. Store the back-fill in a place where it will not freeze, such as an attached garage or by covering it with compost.

Living trees should not be allowed to remain indoors any longer than necessary. Spruce, in particular, will suffer if they have been in a warm room for more than seven to ten days. The buds will begin to swell and then, when they are taken back into the cold, will suffer freeze injury. Pines are less prone to this damage, but even these should not be allowed to stay in a warm room for more than two weeks. Ideally, a living tree should be brought indoors the day before Christmas and removed the day after. Do not plant with the basket or container still intact. If it is in a wooden basket, the sides should be sufficiently broken to permit growth of roots into the new soil. Better yet, remove from the container completely if it can be done without damage to the soil ball.

When planting into soils of a heavy clay type or where drainage is poor, plant several inches above existing grade and then apply a deep mulch around the base. The plant should be watered in well, then checked weekly thereafter and watered when necessary.

If you are willing to part with the traditional Christmas tree, try a "creative tree" of your own. This could be a well-shaped branch from a tree broken in the September 17 snow-storm. From this you can make a unique decoration by spraying the entire branch with gold paint or flocking. Decorate the "tree" in any manner you wish. Such a "tree" is not a fire hazard either since it will lack foliage.



Creative trees can also be made from branches cut from your shrubs, which are inserted into a central trunk in any pattern you wish. The central trunk can be obtained from an unwanted and over-grown chance seedling such as Siberian (Chinese) elm so common in yards and gardens.

If you have not trimmed the evergreens around your house, you might wish to do it shortly before Christmas and use the greens for decoration. Pruning at this time of year will not harm your evergreens.

For more information on pruning evergreens, request your free copy of Service-in-Action leaflet #7.205 from your local Extension office or through the author, c/o Denver Botanic Gardens.

MERRY CHRISTMAS!

Dr. J. R. Feucht

LECTURE SERIES

J. W. Brewer, Assistant Professor of Entomology at Colorado State University, will speak on Thursday, December 9 at 8:00 p.m. in Horticulture Hall. His topic will be "Approaches to Insect Control." Dr. Brewer received his B.S. and M.A. degrees from Central Michigan University and his Ph.D. from Purdue University. He is affiliated with several professional societies and has published many articles in a variety of technical journals. He is particularly interested in pollination and insects which attack landscape plants. Dr. Brewer's major research currently is focused on the needle gall midges that attack pinyon pine.

The next lecture on Thursday, January 20, 1972 at 8 p.m. will be given by Ed Connors. He is a noted environmentalist who is a Board member of the Denver Botanic Gardens. His topic will be "The Environment of Colorado – What is Happening to it."

NEWS FROM THE GARDENS

The planting of selected plants around the Education Building has progressed very well in the past month. The plants which have been or will be planted soon are as follows: three aspen clumps, bald cypress, cotoneaster (cranberry & spreading), wyatt firethorn, pinyon pine, eastern white pine, cut-leaf sumac, bristlecone pine, evergreen mountain mahogany, Oregon grape, Korean spice viburnum, viech Boston ivy and Manhattan euonymus.



CHRISTMAS PARTIES

The Associates Annual Christmas Decorating Party, planned for Thursday December 9, 7 p.m. in Horticulture Hall, will feature a working session. Please wear casual clothes and bring wire cutters and clippers. Refreshments will be served.

The Parks and Recreation Annual Christmas Party will be held on December 15 at 6:30 in Horticulture Hall, 1005 York Street. All staff and employees of the Department are most cordially invited to this festive evening.

SPOT CAMPAIGN LAUNCHED FOR OUTDOOR GARDENS' MAJOR WALKWAYS

At their November 3rd, 1971 meeting, the Board of Trustees of Denver Botanic Gardens launched a spot campaign to raise \$100,000 to pay for the installation of the major walkways in the Outside Gardens (Phase II of the Master Plan). It is essential to raise the money now, so that the walkways and paths can be constructed during the "good days" this winter to provide the needed access to the gardens for planting next spring and summer.

The year is 'drawing to a close, and contributors keeping taxes in mind will recognize the value of making a gift at this time. Although the Board is seeking as many all-at-once gifts as possible, initial payments with pledges of payments to be repeated over a period of two or three years are certainly welcome. Many of the Gardens' friends have completed pledges made in 1969 – this would be an ideal time for them to make a new one.

To implement and add interest to the campaign, the Board has been divided into three teams, each team aiming toward a goal of \$33,333.33, and each team in friendly competition with the others to reach its goal first. A certain amount of Poetic License has been exercised, and the campaign has been entitled "The War Of The Roses," the traditional Red and White Teams have been formed, and a Yellow Team has been added. Contributions for this campaign may be sent directly to the Development Fund Office at Denver Botanic Gardens, 909 York Street, Denver, Colorado 80206, or contributors may wish to support a specific team, in which case, Richard A. Kirk for the Red Team, James C. Owen, Jr., for the White Team, and George M. (Mickey) Canon, for the Yellow Team should be contacted.

LIBRARY NEWS

Many thanks to the volunteers who are presently working in the library. Volunteers are still needed, especially on Thursdays and Saturdays. If anyone is interested please call Mrs. Huggins, 297-2547, Ext. 24.

A RESOLUTION IN MEMORY OF J. CLINTON BOWMAN

WHEREAS,

J. Clinton Bowman served faithfully and well as a Trustee of Denver Botanic Gardens, Incorporated for seven and one-half years, and

WHEREAS,

He has been taken from us in untimely death,

NOW THEREFORE, BE IT RESOLVED

That the members of the Board of Trustees of Denver Botanic Gardens, Incorporated, do unanimously express their gratitude for his services and comradeship in their efforts to develop the gardens, and

BE IT FURTHER RESOLVED

That the Trustees do individually and collectively express their sincere sympathy to his family.

Approved by unanimous vote of the Board of Trustees at its Special Meeting held on 3 November 1971.

John C. Mitchell, President
Moras L. Shubert

3 November 1971

CALENDAR OF EVENTS

DECEMBER, 1971

December

1)	* 9:00 AM	Ed. Bldg., – North Classroom	Floral Design Workshop – Community College – Mr. Ashley
1)	* 9:00 AM	Botanic Gardens House – Main, Dining & Kitchen	D.B.G. Guild – Bottle vinegar
1)	* 6:30 PM	Ed. Bldg., – North Classroom	Floral Design Workshop – Community College – Mr. Ashley
2)	*10:00 AM	Botanic Gardens House – Dining & Kitchen	Div. A – Garden Club
2)	* 2:00 PM	Ed. Bldg., – East Classroom	Tropical Plants for House & Garden – Mr. Bibee
2)	* 7:45 PM	Botanic Gardens House – Main Room	Denver Orchid Society – Christmas Party
2)	8:00 PM	Ed. Bldg., – Horticulture Hall	Colorado Mountain Club – “Dinosaur Nat’l. Monument”
3)	*11:00 AM	Botanic Gardens House – Main & Dining Rooms	Civic Garden Club
4)	* 9:30 AM	Botanic Gardens House – Main & Dining Rooms	Rocky Mountain African Violet Council – “Parliamentary Workshop”
5)	7:00 PM	Ed. Bldg., – South Classroom	Bromeliad Organization Potluck
6)	* 4:00 PM	Botanic Gardens House – Main Room	Plains Conservation Center, Annual Meeting
6)	* 6:30 PM	Ed. Bldg., – North Classroom	Floral Design Workshop – Community College – Mr. Ashley
6)	* 7:30 PM	Botanic Gardens House – Main Room	Swingle Tree Meeting
7)	*10:00 AM	Ed. Bldg., – Herbarium Room	Herbarium Committee
7)	* 1:00 PM	Botanic Gardens House – Dining Room	Editorial Committee
7)	7:30 PM	Ed. Bldg., – East Classroom	Colorado Mountain Club – Conservation
8)	* 9:00 AM	Ed. Bldg., – North Classroom	Floral Design Workshop – Community College – Mr. Ashley
8)	* 9:30 AM	Botanic Gardens House – Main Room	D.B.G. Guild Meeting
8)	* 6:30 PM	Ed. Bldg., – North Classroom	Floral Design Workshop – Community College – Mr. Ashley
8)	7:30 PM	Ed. Bldg., – East Classroom	Colorado Mountain Club – Denver Council
9)	* 7:00 PM	Ed. Bldg., – Lobby Court	Annual Christmas Decorating Party – Associates
9)	7:30 PM	Ed. Bldg., – North Classroom	Organic Gardening Club of Denver
9)	8:00 PM	Ed. Bldg., – Horticulture Hall	Lecture Series – Dr. Brewer “Approaches to Insect Control”
10)	* 7:30 PM	Botanic Gardens House	Colorado Bonsai Club – Christmas Party
14)	4:00 PM	Botanic Gardens House – Dining Room	Executive Committee
14)	7:30 PM	Ed. Bldg., – Horticulture Hall	Colorado Mountain Club – Fundamentals of Winter – “Camping” – Paul Poitras
15)	* 6:30 PM	Ed. Bldg., – Horticulture Hall	Parks & Recreation Christmas Party
16)	*10:00 AM	Botanic Gardens House – Main & Dining Room	Around the Seasons Christmas Party
16)	8:00 PM	Ed. Bldg., – Horticulture Hall	Colorado Mountain Club – “Around the World in 50 Days – Russia – Siberia – Japan”
20)	* 1:00 PM	Ed. Bldg., – Horticulture Hall – Lounge	Library Committee
21)	7:00 PM	Botanic Gardens House – Main Room	Audubon Society
21)	7:30 PM	Ed. Bldg., – Horticulture Hall	Sierra Club
23)	7:30 PM	Botanic Gardens House – Main Room	Men’s Garden Club of Denver
26)	2:00 PM	Ed. Bldg., – East Classroom	Colorado Cactophiles
28)	7:30 PM	Ed. Bldg., – South Classroom	Colorado Mountain Club – Photo Section

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January - 1972

2)	2:00 PM	Ed. Bldg., - South Classroom	Bromeliad Organization
4)	*10:00 AM	Ed. Bldg., - Herbarium Room	Herbarium Committee
4)	* 1:00 PM	Botanic Gardens House - Dining Room	Editorial Committee
4)	7:30 PM	Ed. Bldg., - East Classroom	Colorado Mountain Club - Conservation
6)	7:45 PM	Botanic Gardens House - Main & Conference Rooms	Orchid Society
8)	9:30 AM	Botanic Gardens House - Main Room	Gloxinia Gesneriad Growers

* = For members or enrollees only.



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GARDENING TIPS FOR JANUARY

January is hardly the month one would think of in terms of gardening. But, to start the new-year off right, it is a time to dream about your garden for the coming growing season which will be here sooner than you think. Order garden catalogs now and begin thumbing through them. Then put your ideas on paper. A little planning now will reap big dividends in your spring and summer garden.

If you plan carefully you can have a garden with all season color. For more information on this subject, contact the author care of the Denver Botanic Gardens for Colorado State University Extension Intermountain Regional Bulletin No. 5. This illustrated bulletin gives many helpful hints on both annuals and perennials. Price 30¢.

By the middle of January, most flowering trees and shrubs have gone through a sufficient cold period that branches taken indoors will break dormancy and can be forced into bloom. Some of the more easily forced include forsythia, honeysuckle, flowering quince and crabapple. When you have cut the branches, make sure they are flowering shoots. Avoid sucker growth which was produced from the base of the plant last year. These generally will not have flowering buds. When cutting them from the shrub you can do a thinning operation at the same time, but avoid cutting only at the outer edges of the shrub or tree. This will tend to give the plant a "hair cut" look and will destroy the bloom later on.

During extended periods — particularly in January and February — when there may be little or no snow cover, trees, shrubs and lawn grasses can be damaged if they do not receive supplemental water.

The result of long, dry periods in winter is the death of or injury to plant root systems. The plants affected may appear perfectly normal and resume growth in the spring, only to weaken or die in late spring or early summer because the amount of new growth produced is greater than the weakened root system can support.

Most woody plants which have shallow root systems require supplemental watering during extended winter dry periods. Included in this group are such shade trees as European white birch, Norway and soft (or silver) maples and lindens (basswood). Also included are evergreens such as Colorado spruce.

Evergreen shrubs, particularly those growing near a house, may suffer root system damage during dry spells. Examples are plants such as Pfitzer and "Tammy" junipers.

Lawn grasses are also prone to winter damage. Newly established lawns, whether put in with seed or sod, are especially susceptible to damage in dry weather.

Winter watering should be performed only when air temperatures are above freezing. Water should be applied early in the day so that it will have time to soak in before possible freezing occurs during the night.

If water is allowed to stand around the base of a tree, it can freeze and cause mechanical damage to the bark.

In most years, one or two winter waterings may be enough to keep plants from suffering winter damage.

A soil needle (root feeder) attachment for the garden hose is recommended for applying water to trees and shrubs. The attachments are available in garden supply stores.

In using a soil needle, the depth at which the water is applied will depend upon the type of plant concerned. For most junipers, about 24 inches is sufficient. On shallow-rooted trees, such as the linden, maple and birch, 12-18 inches is the correct watering depth. If a portion of the root system of a plant is beneath a sidewalk or other obstruction, the soil needle should be slanted to apply water beneath these surfaces.

In watering trees, the most important area is the distance from a point halfway between the trunk and the outer stretch of the branches to approximately one foot beyond the "drip line" or branch extremities. The majority of feeder roots are in this area.

If the water is applied with a soil needle in a zigzag pattern around the tree, all parts of the tree will receive an adequate amount of water.

For shallow-rooted trees, such as birch, a sufficient amount of water may be applied with sprinklers. The lawn areas can be watered at the same time.

The winter months are a good time to clean up your dead and dying elm wood. Elm logs still have their bark attached and broken branches in elm trees may contain the European elm bark beetle. These beetles, which are only about the size of a grain of rice, are responsible for spreading Dutch elm disease upon their emergence in spring. It is everyone's responsibility to clean up all dead and dying elm wood. Think of this: A recent laboratory study showed that a Siberian (Chinese) elm log just 8 inches long and 4 inches in diameter reared 366 beetles. Each of these is capable of causing the death of a mature elm tree by transmitting the disease to those trees. The negligence of one person in insuring that all beetle wood has been cleaned up can result in the loss of many trees in his community. Join the fight to control Dutch elm disease now! Search your property now and get rid of the beetle wood. Encourage others to do the same.

Happy gardening in the New Year.

Dr. J. R. Feucht

SINCERE THANKS

For the eighth successive year the Associates pre-Christmas gift sale was bigger than the last. Shoppers never cease to revel at the variety and originality of gifts — many handcrafted and all with nature in mind.

Dr. Wm. Gambill Jr., Director; John Mitchell, President of the Board; and the Trustees join in offering their genuine gratitude to those dedicated volunteers — members of Associates, Around the Seasons and Botanic Gardens Guild — who spent hours, weeks and even months preparing for this event.

And now, without pause, volunteers at the Gift Shop continue their year-round service with hours, as usual, 10 a.m. to 4 p.m. daily and 11 a.m. to 4 p.m. Sunday.

ANNOUNCEMENT

The rising cost of printing, postage, and other costs of maintaining membership has necessitated an adjustment of fees.

A new Junior membership (available up to age 15) is \$2.50 annually.

Regular is now \$7.50.

Participating \$15.00.

Supporting \$25.00.

Contributing \$50.00.

Business and Education Institutional (new category) \$100.00.

Beginning January 1, 1972 the membership will be effective on a calendar year basis. Further details on this announcement will be sent to all members in the next newsletter.

CLASSES AT DENVER BOTANIC GARDENS

A course in Floral Design Workshop, offered by Denver Community College, will be given on Monday and Wednesday evenings from 6:30 to 9:30 p.m. The first meeting is set for January 10 in the Educational Building and will be taught by Lee J. Ashley. Registration and all arrangements should be made through the Denver Community College.

Tropical Plants for Home and Gardens will be taught by Ernest A. Bibee, Superintendent of the Conservatory. Class days are Tuesday and Thursday at 2:00 p.m., Educational Building. The fee for this 10 week course is \$10.00 for Members of the Gardens and \$17.00 for non-members. For information call 297-2547.

A 10 week class in Home Garden Design will meet Tuesdays 7:00 to 10:00 p.m. in the Educational Building. The first class is scheduled on Tuesday, January 18. Fees are \$18.50 for Members and \$25.00 for non-members. Mr. Andrew R. Knauer, Assistant Director, is the instructor. Enrollment reserved for husband and wife couples.

CLASS AT DENVER MUSEUM OF NATURAL HISTORY

"North American Landscapes" is the title of the first of a series of classes for adults to be offered by the Denver Museum of Natural History, in cooperation with Thorne Ecological Institute, during 1972.

"North American Landscapes" will begin on January 18 and will last eight weeks. Through lectures by eminent local ecologists, slide presentations, and motion picture films, participants will be introduced to the tangle of threads that weave together to form the fabric of this continent, from the Arctic Ocean to the Gulf of Mexico: the forest, grasslands, seacoasts, deserts and tundra. Dr. John W. Marr, Professor of Biology at the University of Colorado and Vice-President of Thorne Ecological Institute, will act as coordinator and primary professor for the class.

Cost of the class will be \$45 for individuals and \$75 for a two-member family combination. For additional information, call the Museum's Education Department at 322-1808.

DONATIONS NEEDED

The University Thrift Shop, 601 Ogden Street, is having a benefit for the Denver Botanic Gardens on January 24-29. Please take your unwanted, acceptable items to the shop. It would be helpful to them if the donations could be received before 3 o'clock. Hours at the Shop are 9 - 4:30 Monday through Friday and 9 - 4 on Saturday.

Newly elected to the Board of Trustees of Denver Botanic Gardens for a 3-year term are:

Mr. Ralph J. Becker

President of the Denver Division of Chevron Oil Company.

Mr. David Touff

Active community leader

Re-elected to Board for a 3-year term are:

Mr. George M. Canon

Mr. John C. Mitchell

Mrs. Brown W. Cannon

Mr. James C. Owen, Jr.

Mr. Richard A. Kirk

Dr. Moras L. Shubert

Mrs. James J. Waring

LECTURE SERIES

Edward P. Connors, President of the Colorado Open Space Council, a service organization comprising 37 environmental groups, will speak on Thursday, January 20, 1972 at 8 p.m. in Horticulture Hall. His primary interest is in the environment so appropriately his topic is "The Environment of Colorado - What is Happening To It." Mr. Connors, who is a graduate of Yale University, is a teacher at the Denver Country Day School. He is a trustee of the Denver Botanic Gardens and of the Colorado Rocky Mountain School. He received the Colorado Mountain Club Conservationist of the Year Award for 1971.

Dr. Beatrice E. Willard, Vice-President of the Thorne Ecological Institute of Boulder, will deliver the lecture on February 23, 1972 at 8 p.m. She will speak on "Alpine Botanic Gardens in Europe."

ADDITION TO COLLECTION

The herbarium collection of the University of Denver has been deposited in the Kathryn Kalmbach Herbarium of the Denver Botanic Gardens. This is a most welcome addition to our files. Herbarium hours are 9 a.m. to 3 p.m. on Tuesday or by appointment.

THIRTEENTH ANNUAL GARDEN AND HOME SHOW

"Colorado Internationale '72" is the theme for the Garden and Home Show to be held in Currigan Exhibition Hall, February 4-13, 1972. Each day will feature a special country with a salute accenting its gardens, food, music and architecture. The hours are Friday and Saturday—noon to 10 p.m., Sunday—noon to 6 p.m., Monday through Thursday—6 p.m. to 10 p.m. Admission is \$1.50 for adults, children (6 to 12) 75¢ and children under 6 free.

The following books are recent additions to the Helen Fowler Library:

The Bromeliads, Jewels of the Tropics, Lyman B. Smith.

Wildflowers of the U. S., Part V, The Northwestern States, William Rickett.

Photographer in the Rain-forest, Paul Griswold Howes.

Anatomy of a Park, Albert J. Rutledge.

A Tropical Rain Forest, Howard T. Odum.

Plants of the South Dakota Grasslands, James R. Johnson and James F. Nichols.

Capability Brown and Humphrey Repton, Edward Hyams.

Wild Mushrooms, an Illustrated Handbook, Linus Zeitmayr.

Fundamentals of Mycology, J. H. Burnett.

Practical Mycology, a Manual for Identification of Fungi, Sigurd Funder.

British Garden Flowers, George M. Taylor.

Garden Facts and Fancies, Alfred Carl Hottes.

Gardening the Small Place, William H. Clark.

Gardening with Nature, Leonard Wickenden

GARDENING TIPS FOR FEBRUARY

Let's face it. February is hardly a month in which one would think of gardening. On the other hand, Colorado does have many bright, shiny days and often the soil is not frozen in protected areas around the house. You can take advantage of this time of year and, where possible, cultivate that ground to get it ready for planting in the spring. Leave it lumpy because we have freezing and thawing, an action which breaks down the lumps and results in a mellow soil at planting time. Obviously, areas along the north side of your house may have to wait for this until the ground is thoroughly thawed.

Little has to be said about the winds we have had. All of us are aware of the periods, particularly during January, when we have high velocity winds and drifted snow. Now is a good time to inspect your property for damage from the wind. Broken branches which are still hanging in a tree should be removed. Otherwise, more damage could result by stripping of the bark in a later storm. If you examine the branches of a tree carefully you will find where branches that are too closely spaced have rubbed together in the winds. These can be physically separated by running a bolt through both branches and putting a spacer, such as a block of wood, between. Often, however, you can remove one of the branches without affecting the balance of the tree.

The winds also resulted in the drifting of the snow in certain areas and leaving heavy accumulations on the more shaded portions of the lawn. If this wind-packed snow is allowed to stand very long, you can have smothered grass and snow mold. Snow mold becomes evident as the edge of the drift recedes, in the form of a pinkish fungus on the surface of the lawn. This is difficult to cure and is better prevented. The best way is to shovel these drifts and throw the snow out into the open lawn area where it will quickly melt. Fungicides for snow mold control are also available. Among these, Fore and Tersan (Benlate), are considered most effective. The latter is a systemic fungicide rather recently introduced but becoming more available in the area.

While inspecting your grounds look also for signs of overwintering insects. Oyster shell scale on lilac and dogwood canes is easily seen and can be pruned out, particularly if the shrubs need thinning. On a day when the temperature is above 50° you can also apply a dormant oil to smother the eggs.

Pruning can be done this time of year. Without the foliage on deciduous trees and shrubs it is easier to see what you are doing. Trees and shrubs having a need for thinning can be done at this time. Make sure you make a flush cut, leaving no stubs, or make a cut just above a side bud or branch. Don't worry about the "bleeders." Some oozing of sap may occur in maple and birch, but they won't bleed to death. Avoid top pruning of shrubs, especially the spring-flowering type. This will remove the buds containing the flowers. Top pruning is a poor practice in all shrubs anyway. Reserve this practice for hedges only. Evergreens, too, can be pruned at this time. Pfitzers and similar evergreens should be pruned in such a way that they are wider at the base than

at the top. This not only allows for better light penetration but reduces breakage from heavy snow storms.

During extended dry periods don't forget to water evergreens and shallow-rooted trees and shrubs.

A general cleanup of the yard is also in order. Winds have blown newspapers and other trash into the shrubs and along fence lines. Remove last year's tops of herbaceous perennials and, while you are at it, make sure you don't have branches or logs of elm wood on your property. They will be harboring the beetle which carries Dutch elm disease.

It is also time to place your order of nursery stock for the spring planting. Early orders get better selections. Take an inventory of needed pesticides, fertilizers, garden tools, etc. Keep this shopping list handy so you don't have to run out at the last minute for one or two small items. Knowing what you need will also enable you to watch for sales of gardening supplies.

Spring will be here sooner than you think. *Is your garden ready for it?*

Dr. J. R. Feucht

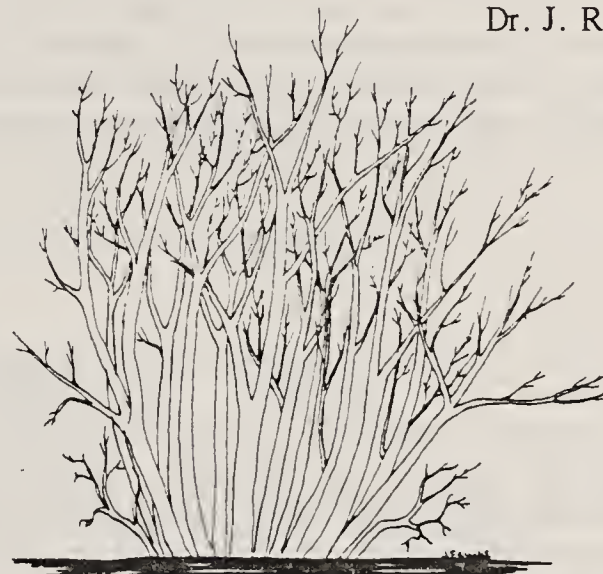


Fig. 1 A shrub in need of thinning. This is done by removing the oldest canes as close to the ground as possible, as shown in figure 2.

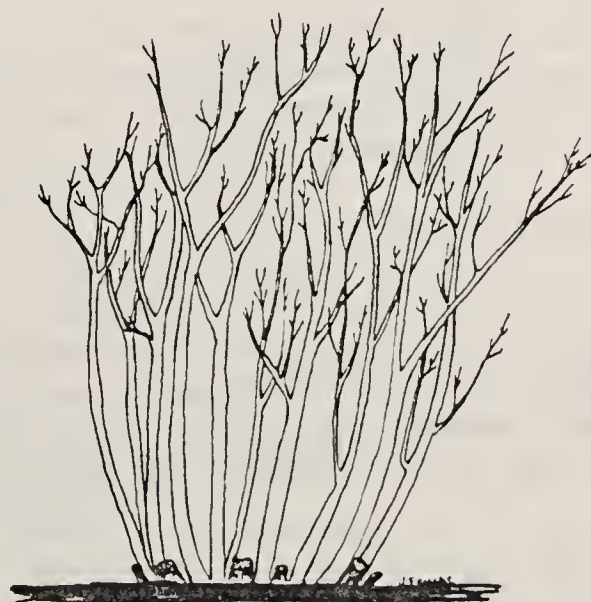


Fig. 2 Thinned shrub. New sprouts will develop near the base of the plant, overcoming the "leggy" look. Bloom is not affected by this type of pruning because the top has not been cut back.

S.O.S. FROM THE HELEN FOWLER LIBRARY!

There are over 100 books which are overdue, some since spring. The collection is being reclassified to the Library of Congress classification scheme and the overdue books are needed for processing. Please help us start the new year by bringing back all overdue items as soon as possible. There are NO fines.

During the May Plant Sale, we hope to have a book sale. Because of the great success of last year's sale, we are in need of more books to sell for this year's event.

If you have any books, which you would like to donate to the library for the collection or for the sale, your gifts would be greatly appreciated. Books have to be within the following subjects: Botany, Horticulture, History, Seeds, Crops (economic, vegetable and/or fruit culture), Ornamental plants, Gardens, Landscape gardening, Parks, Plant pathology, Entomology, Forestry, Agriculture, Ecology as related to gardening. Any juvenile books on these subjects would also be accepted with gratitude.

INFORMATION

This is to reaffirm information given in the last newsletter about dues. As of January 1, all new regular memberships will be \$7.50. All new participating memberships will be \$15.00. All regular renewals will be \$7.50 after April 1 and no more \$5.00 renewals will be accepted after that date. Participating renewals will be \$15.00 after the first of April.

All members will be receiving further information on this matter.

* * *

The Institute of International Education is bringing spring-time to Denver early this year! "It's Tuliptime 72," sponsored by The Netherlands Flower Bulb Institute, will feature two of Holland's top designers. They will create floral masterpieces featuring tulips, daffodils, hyacinths, and iris. At the conclusion of the design show, all the arrangements will be auctioned off to the audience. The show is scheduled for Friday, February 18th at Horticulture Hall — Continental breakfast at 9:30 a.m. Dutch treat at 2:00 p.m. The cost is \$5.00 per ticket available from

Mrs. James T. Golden
655 Locust Street
Denver, Colorado 80220
Phone 355-8339

* * *

Remember the Garden and Home Show, February 4-13 in Currigan Hall. Each day will feature a special country with a salute accenting its gardens, food, music and architecture. See January newsletter for hours and cost.

ANNOUNCEMENT

Margaret J. Sikes, the editor of *The Green Thumb* magazine, has accepted the position of Education Director replacing James M. Schell. If there are any announcements for the newsletter, please call her at 297-2547, ext. 23.

LECTURE SERIES

"Alpine Botanic Gardens in Europe" is the topic of Dr. Beatrice Willard's lecture on February 23. This is scheduled at 8 p.m. in Horticulture Hall. Dr. Willard, a native of California, received her B. A. degree from Stanford University in Biological Sciences and advanced degrees from the University of Colorado in Plant Ecology. She is the author of numerous scientific articles and has served as consultant in ecology for various groups. She has been associated with the Thorne Ecological Institute in Boulder since 1965 and currently is serving as President of the Institute.

The next lecture will be by George Kelly who could well be titled "Mr. Colorado Horticulture." He will speak March 16 at 8 p.m. in Horticulture Hall. His topic is "Colorado is Not Connecticut."

* * *

Those of us at the Gardens know full well that Mrs. David Touff is the new member of the Board of Trustees although a printer's error indicated it was Mr. Touff.

* * *

Charlotte Berger Barbour, who died December 29, 1971, was an interested and dynamic benefactor of the Denver Botanic Gardens. A native Denverite, she was active in many local societies and entered into their various projects with enthusiasm. Her special concerns were the Botanic Gardens with membership on the Editorial Committee and deep interest in the Library, the Colonial Dames project of the Hotel de Paris in Georgetown, the Institute of International Education, and of course, The Dumb Friends League. Her love of all dumb animals was outstanding. Quick to say what she thought on all subjects, she was a lively person.

Those who knew her felt privileged. Mrs. Barbour will be missed.

* * *

The employees and Board of Trustees of Denver Botanic Gardens have honored John D. Hershner, Chairman of the Initial Development Fund Campaign, for his leadership in reaching its initial goal of \$850,000. Although we are far from finished with the development of the York Street Gardens, this success gives us the inspiration to renew our efforts to complete the imaginative Master Plan.

SPECIAL NOTICE

Circle March 18 on your calendar now! The first Annual Rose Symposium is planned that morning from 9-12 in Horticulture Hall. This is planned for the amateur or the newcomer to Denver who needs help on the cultivation of roses. Some of the topics to be covered are: soil preparation, varieties to buy, and planting and pruning procedures.

CALENDAR OF EVENTS

FEBRUARY 1972

February

* 1)	10:00 AM	Ed. Bldg., — Herbarium Room	Herbarium Committee
* 1)	1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
* 1)	2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
* 1)	7:00 PM	Ed. Bldg., — North Classroom	Home Garden Design — Mr. Knauer
2)	9:30 AM	Botanic Gardens House — Main Room	D. B. G. Guild Meeting
* 2)	6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
* 3)	10:00 AM	Ed. Bldg., — Horticulture Hall	Regional Landscape Management Workshop — Dr. Feucht
* 3)	2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
3)	7:45 PM	Botanic Gardens House — Main Room	Orchid Society — Speaker & illustrated lecture — Dr. John C. Long—Author of <i>Native Orchids of Colorado</i>
* 4)	11:00 AM	Botanic Gardens House — Main Room — Dining Room & Kitchen	Civic Garden Club
5)	9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
6)	2:00 PM	Ed. Bldg., — South Classroom	Bromeliad Organization
* 7)	9:00 AM	Ed. Bldg., — North Classroom	Landscape Horticulture — Dr. Feucht Insect—Short course Tree Identification—Short course
* 7)	6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
* 8)	2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
* 8)	4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
* 8)	7:00 PM	Ed. Bldg., — North Classroom	Home Garden Design — Mr. Knauer
8)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club — Conservation
* 9)	12:30 PM	Botanic Gardens House — Main Room	The Book Club — Luncheon & program Speaker — Mr. Knauer — Tour through the Conservatory
* 9)	6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
9)	7:30 PM	Ed. Bldg., — East Classroom	Colorado Mountain Club — Denver Council
*10)	10:00 AM	Ed. Bldg., — Horticulture Hall	Regional Landscape Management Workshop — Dr. Feucht
*10)	2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
10)	7:30 PM	Botanic Gardens House — Main Room	Denver Rose Society
10)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Program
11)	7:30 PM	Botanic Gardens House — Main Room — Dining Room & Kitchen	Dahlia Society
*14)	9:00 AM	Ed. Bldg., — North Classroom	Landscape Horticulture — Dr. Feucht Insect — Short course Tree Identification — Short course
*14)	6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
*15)	2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
*15)	7:00 PM	Ed. Bldg., — North Classroom	Home Garden Design — Mr. Knauer
15)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
15)	7:30 PM	Ed. Bldg., — Horticulture Hall	Sierra Club
*16)	12:45 PM	Botanic Gardens House — Main and Dining Room	Civic Garden Club — Div. "D"
*16)	6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
*17)	9:00 AM	Ed. Bldg., — Horticulture Hall	Institute of International Education — Planning Session
17)	10:00 AM	Botanic Gardens House — Main Room	Around the Seasons
*17)	2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
17)	7:30 PM	Ed. Bldg., — North Classroom	Organic Gardening Club of Denver
18)	9:00 AM— 5:00 PM	Ed. Bldg., — Horticulture Hall	Institute of International Education — OPEN TO PUBLIC 9:30 AM — Continental Breakfast 2:00 PM — Dutch Treat
18)	7:30 PM	Ed. Bldg., — North Classroom	Colorado Bonsai Club
18)	7:30 PM	Ed. Bldg., — East Classroom	Botany Club
*21)	9:00 AM	Ed. Bldg., — North Classroom	Landscape Horticulture — Dr. Feucht Insect — Short course Tree Identification — Short course
*21)	6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
*22)	2:00 PM	Ed. Bldg., — East Classroom	Tropical Plants for House & Garden — Mr. Bibee
*22)	7:00 PM	Ed. Bldg., — North Classroom	Home Garden Design — Mr. Knauer
*23)	6:30 PM	Ed. Bldg., — North Classroom	Floral Design Workshop — Community College — Mr. Ashley
23)	8:00 PM	Ed. Bldg., — Horticulture Hall	Lecture Series — Speaker — Dr. Beatrice Willard

DENVER BOTANIC GARDENS, INC.
909 YORK STREET • DENVER, COLORADO 80206



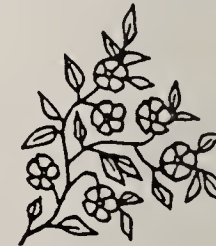
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| *24) | 9:30 AM | Botanic Gardens House — Main Room | Southern Hills Gardeners —
Speaker — Gloria Falkenberg "Herb Gardening" |
| *24) | 2:00 PM | Ed. Bldg., — East Classroom | Tropical Plants for House & Garden — Mr. Bibee |
| 24) | 7:30 PM | Botanic Gardens House | Men's Garden Club of Denver |
| 24) | 8:00 PM | Ed. Bldg., — Horticulture Hall | Colorado Mountain Club |
| 25) | 10:00 AM | Ed. Bldg., — Horticulture Hall | Ikebana International Demonstration |
| 27) | 2:00 PM | Ed. Bldg., — East Classroom | Colorado Cactophiles |
| *28) | 9:00 AM | Ed. Bldg., — North Classroom | Landscape Horticulture — Dr. Feucht
Insect — Short course
Tree Identification — Short course |
| *28) | 6:30 PM | Ed. Bldg., — North Classroom | Floral Design Workshop — Community College — Mr. Ashley |
| *29) | 2:00 PM | Ed. Bldg., — East Classroom | Tropical Plants for House & Garden — Mr. Bibee |
| *29) | 7:00 PM | Ed. Bldg., — North Classroom | Home Garden Design — Mr. Knauer |
| 29) | 7:30 PM | Botanic Gardens House — Main Room | Colorado Mountain Club — Photo Section |
- March**
- | | | | |
|------|---------|-----------------------------------|---|
| * 1) | 6:30 PM | Ed. Bldg., — North Classroom | Floral Design Workshop — Community College — Mr. Ashley |
| * 2) | 2:00 PM | Ed. Bldg., — East Classroom | Tropical Plants for House & Garden — Mr. Bibee |
| 2) | 7:45 PM | Botanic Gardens House — Main Room | Orchid Society |
| 4) | 9:30 AM | Botanic Gardens House — Main Room | Gloxinia Gesneriad Growers |
| 5) | 2:00 PM | Ed. Bldg., — South Classroom | Bromeliad Organization |

* = For members or enrollees only.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 per year. Items for publication are welcome. The deadline for copy to the editor is the 15th of each preceding month of publication. Editor — Margaret Sikes — 297-2547, ext. 23.



* * *

The Board of Trustees of Denver Botanic Gardens
requests the pleasure of your company
at the Annual Membership Dinner
Wednesday, March 8, 1972
Horticulture Hall Denver Botanic Gardens

Guest Speaker: Col. B. P. Pendergrass
(Corps of Engineers, U. S. Army)
Social Hour 6 - 7 p.m. Dress — Informal
Dinner 7 p.m. \$5.50 per person

* * *

GARDENING TIPS FOR MARCH

In March the gardener's thoughts begin to turn toward spring. It is, however, a bit early to do much more out of doors than turning the soil where the ground is not frozen, thinning of shrubs (described last month,) and a general cleanup of debris from the yard.

There are some things that can be done indoors such as starting some of your annuals and even perennials from seed. One caution, however. Make sure you have a sunny window once the seeds start to germinate and be prepared to replant them and space them out so they won't become too stringy before they can be set out of doors. If the major light source is natural light, you will need to turn the plants daily. For better success, however, use a Gro-Lux type fluorescent tube. This is placed about 6 inches above the seedlings after they have germinated. The light will need to be on ten to twelve hours a day for most annuals such as petunias, snapdragon, corn flower, gaillardia and China-aster. If you are starting cockscomb, marigold, zinnia and scarlet sage indoors, you will need 18 hours of light.

When the seedlings have developed at least two true leaves (not the so-called seed leaves or cotyledons) they should be transplanted and spaced out into flats or individual peat pots. The latter are preferable for ease of planting later on.

The time for planting seeds indoors will depend on the germination time to avoid planting them too early. Otherwise, you will have to hold them indoors so long that they will tend to grow stringy and will not be strong plants. Annuals such as zinnias, marigolds and ageratum germinate quickly and probably should not be started until the latter part of March or even early April. Petunias and snapdragons take a little longer and can be started in mid-March and thinned and transplanted into separate containers about the second week of April. Avoid keeping the seedlings too wet as this will tend to encourage damping-off fungi.

Dr. J. R. Feucht

The Denver Botanic Gardens in cooperation with the Denver Rose Society, Loveland Rose Society, Boulder Valley Rose Society and Arapahoe County Rose Society will sponsor the First Annual Rose Symposium on Saturday, March 18 in Horticulture Hall. This free symposium from 9 - 12 is planned to give basic information to newcomers to the Denver area or to others who need help with the successful cultivation of roses.

Some of the topics to be discussed are: soil preparation, varieties to buy, planting and pruning, and problems such as insects or diseases and their controls.

Ample time will be allowed for questions.

* * *

Newly elected to the Board of Trustees for a 3-year term are:

Mrs. John Brooks, Jr.
Active Community Leader

Mr. Alexander L. Kirkpatrick
Commercial Banking Officer
United Bank of Denver

Mrs. Howard Rea
Active Community Leader

* * *

DEMONSTRATION OF FLOWER ARRANGEMENT

Mrs. Joe E. Wolff, an Instructor of National Council Flower Show Schools and a Master Judge, will present a lecture and demonstration of flower arrangement on April 7, at 1 p.m. Mrs. Wolff is being presented by the Colorado East Judges' Council of Colorado Federation of Garden Clubs. Donation \$2.00. Reservations available at the Denver Botanic Gardens Gift Shop.

PROGRESS REPORT ON THE CAMPAIGN TO RAISE \$100,000 FOR PHASE II OF THE MASTER PLAN

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Dr. Bernard C. Sherbok
Dr. & Mrs. Norbert L. Shere
Dr. & Mrs. Ralph H. Verploeg
Dr. Marlin Weaver
Dr. Franklin P. Wherry
Dr. Sara D. Winter
Dr. & Mrs. Oliver Wolcott
Dr. Don E. Woodard
Dr. H. S. Zuckerman

Our grateful thanks to you all!

* * *

The first Botany Field Trip of the season will start from Botanic Gardens House (corner of York St. and East 9th Ave.) at 9 a.m., March 1st. Trips are to be held on the first and third Wednesday of each month, unless another weekday is chosen by the group. Any adult is welcome; there is no fee, but members of the group without cars will share gasoline expense with the drivers. We bring sack lunches and usually return by mid-afternoon.

In addition to plant identification we will consider the relationships of plants to the other partners of the macro-environment. Leaders: E. H. Brunquist, Helen Zeiner, and Marjorie Shepherd. This program is sponsored jointly by the Botanic Gardens and the Denver Museum of Natural History.

* * *

Our readers will be sorry to hear of the death of Ruth Dodge. She was past president of the Rocky Mountain African Violet Council, Founder of the Capitol City African Violet Club, and Founder of the Gloxinia Gesneriads Growers. She was greatly respected and admired by all who knew her and a loyal contributor to the Denver Botanic Gardens.

LECTURE SERIES

Mr. George Kelly will be the next speaker in the Denver Botanic Gardens lecture series. Many of our members know George personally or know of him because of his activities in Colorado Forestry and Horticulture Association, as editor of *The Green Thumb* for many years or from his books *Rocky Mountain Horticulture* and a *Guide to the Woody Plants of Colorado*. The topic of his talk is "Colorado is not Connecticut," and will be given in Horticulture Hall at 8 p.m. on March 16, 1972.

Dr. Carl J. Jorgensen, Assistant Professor of Horticulture at Colorado State University, will deliver the April lecture on the 20th at 8 p.m. This illustrated talk will be on "Iris — the Lazy Man's Flower."

* * *

A model of the proposed Chatfield area will be displayed in the lobby of Horticulture Hall during the month of March. This model is courtesy of the U. S. Army Corps of Engineers.

GLAD "BULBS" AND DAHLIA TUBER SALE

March 25 — 10 a.m.—5 p.m. Horticulture Hall — Members of the two organizations will be on hand to give advice as to cultivation and varieties suited to the area. All welcome.

* * *

Donations still needed at the University Thrift Shop, 601 Ogden. Please take your unwanted, acceptable items to the shop and mention the Denver Botanic Gardens so that we will receive the credit.

CALENDAR OF EVENTS

MARCH 1972

March

1)	9:00 AM	Botanic Gardens Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
* 1)	6:30 PM	Ed. Bldg., Lecture Room A	Floral Design Workshop — Community College — Mr. Ashley
1)	7:30 PM	Ed. Bldg., Horticulture Hall	Zero Population Growth
* 2)	2:00 PM	Ed. Bldg., Lecture Room B	Tropical Plants for House & Garden — Mr. Bibee
4)	9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
5)	2:00 PM	Ed. Bldg., Lecture Room C	Bromeliad Organization
* 6)	9:00 AM	Ed. Bldg., Lecture Room A	Landscape Horticulture — Insect, short course Dr. Wayne Brewer
* 6)	1:30 PM	Ed. Bldg., Lecture Room C	Landscape Horticulture — Tree Identification — short course Dr. James Feucht
* 6)	6:30 PM	Ed. Bldg., Lecture Room A	Floral Design Workshop — Community College — Mr. Ashley
* 7)	10:00 AM	Ed. Bldg., Herbarium Room	Herbarium Committee
* 7)	1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
* 7)	2:00 PM	Ed. Bldg., Lecture Room B	Tropical Plants for House & Garden — Mr. Bibee
* 7)	7:30 PM	Ed. Bldg., Lecture Room A	Home Garden Design — Mr. Knauer
7)	7:30 PM	Ed. Bldg., — Lecture Room B	Colorado Mountain Club — Conservation
* 8)	9:30 AM	Botanic Gardens House — Main Room	D. B. G. Guild
* 8)	1:00 PM	Ed. Bldg., Lecture Room C	Ikebana International Workshop
* 8)	6:30 PM	Ed. Bldg., Lecture Room A	Floral Design Workshop — Community College — Mr. Ashley
* 8)	7:00 PM	Ed. Bldg., Horticulture Hall	Annual Membership Dinner (6:00 - 7:00PM — Social Hour)
8)	7:30 PM	Ed. Bldg., Lecture Room B	Colorado Mountain Club — Denver Council
* 9)	2:00 PM	Ed. Bldg., Lecture Room B	Tropical Plants for House & Garden — Mr. Bibee
9)	7:00 PM	Ed. Bldg., Lecture Room C	Orchid Society
9)	7:30 PM	Botanic Gardens House — Main Room	Denver Rose Society
9)	8:00 PM	Ed. Bldg., Horticulture Hall	Colorado Mountain Club — Program
10)	9:30 AM	Ed. Bldg., Horticulture Hall	Colorado Citizens for Central City
10)	7:30 PM	Botanic Gardens House — Main Room Dining Room — Kitchen	Dahlia Society
*13)	9:00 AM	Ed. Bldg., Lecture Room A	Landscape Horticulture — Insect, short course — Dr. Wayne Brewer
*13)	1:30 PM	Ed. Bldg., Lecture Room C	Landscape Horticulture — Tree Identification — short course Dr. James Feucht
13)	7:00 PM	Ed. Bldg., Lecture Room C	Colorado Mycological Society
*14)	2:00 PM	Ed. Bldg., Lecture Room B	Tropical Plants for House & Garden — Mr. Bibee
*14)	4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
*14)	7:30 PM	Ed. Bldg., Lecture Room A	Home Garden Design — Mr. Knauer
15)	9:00 AM	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
*15)	10:00 AM	Botanic Gardens House — Main Room	Plant Sale Committee Meeting
*16)	10:00 AM	Botanic Gardens House — Main Room	Around The Seasons
*16)	2:00 PM	Ed. Bldg., Lecture Room B	Tropical Plants for House & Garden — Mr. Bibee
16)	7:30 PM	Ed. Bldg., Lecture Room A	Organic Gardening Club of Denver
16)	8:00 PM	Ed. Bldg., Horticulture Hall	Lecture Series — Mr. George C. Kelly “Colorado Is Not Connecticut”
17)	7:30 PM	Ed. Bldg., Lecture Room B	Botany Club
17)	7:30 PM	Ed. Bldg., Lecture Room A	Colorado Bonsai Club
18)	9:00 AM	Ed. Bldg., Horticulture Hall	Rose Symposium — OPEN TO PUBLIC
*20)	11:00 AM	Ed. Bldg., Horticulture Hall	Women's Comm. on Nat'l. Jewish Hospital — Memberships & Awards — Catered luncheon
21)	12:00 Noon	Botanic Gardens House	African Violet Council
*21)	4:00 PM	Botanic Gardens House — Conference Room	Board of Trustees Meeting
21)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
*21)	7:30 PM	Ed. Bldg., Lecture Room A	Home Garden Design — Mr. Knauer
21)	7:30 PM	Ed. Bldg., Horticulture Hall	Sierra Club
*23)	1:00 PM	Botanic Gardens House — Dining Room & Kitchen	Div. A — Garden Club
23)	7:30 PM	Botanic Gardens House — Main Room	Men's Garden Club of Denver
23)	8:00 PM	Ed. Bldg., Horticulture Hall	Colorado Mountain Club — Program

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- | | | | |
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| *24) | 10:00 AM | Ed. Bldg., Horticulture Hall – Prep Room | Ikebana International – Demonstration |
| 25) | 10:00 AM–
5:00 PM | Ed. Bldg., Horticulture Hall | Colorado Glad. Society & Denver Dahlia Society,
joint “Bulb” & Tuber Sale – OPEN TO PUBLIC |
| *28) | 4:00 PM | Botanic Gardens House –
Conference Room | Board of Trustees Meeting |
| 28) | 7:30 PM | Botanic Gardens House – Main Room | Colorado Mountain Club – Photo Section |
| 30) | 8:00 PM | Ed. Bldg., Horticulture Hall | Colorado Mountain Club – Program |
| *31) | 10:00 AM | Ed. Bldg., Horticulture Hall | Ikebana International – Workshop |

April

- | | | | |
|------|----------|--|---|
| 1) | 9:30 AM | Botanic Gardens House | Gloxinia Gesneriad Growers |
| 2) | 2:00 PM | Ed. Bldg., Lecture Room C | Bromeliad Organization |
| * 4) | 10:00 AM | Ed. Bldg., Herbarium Room | Herbarium Committee |
| * 4) | 1:00 PM | Botanic Gardens House – Dining Room | Editorial Committee |
| 4) | 7:30 PM | Ed. Bldg., Lecture Room B | Colorado Mountain Club – Conservation |
| 5) | 9:00 AM | Botanic Gardens House – Parking Lot | PLANT LIFE FIELD TRIP – Dr. Brunquist |
| 6) | 7:45 PM | Botanic Gardens House – Main Room | Orchid Society |
| 7) | 9:00 AM | Ed. Bldg., Horticulture Hall | Colorado Federation of Garden Clubs,
Judges Council – OPEN TO PUBLIC |
| * 7) | 11:00 AM | Botanic Gardens House – Main Room –
Dining Room & Kitchen | Civic Garden Club |

* = For members or enrollees only.



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THINK TREES!

"When we plant a tree we are doing what we can to make our planet a more wholesome and happier dwelling place for those who come after us if not for ourselves." This quotation from Oliver Wendell Holmes is appropriate, especially this month, when all across the U. S. trees will be planted to celebrate the centennial year of Arbor Day. Arbor Day was conceived in 1872 by J. Sterling Morton, then a member of the Nebraska Board of Agriculture and later U. S. Secretary of Agriculture. This is a day set aside to promote tree planting for the protection and beautification of a community as well as for future soil conservation purposes and wind breaks.

The value of our trees around us, which we often take for granted, has recently been underscored by losses of elms to Dutch elm disease. Many of these elms were planted by farsighted and pioneering individuals in the early years of this century.

It is important to the future of Denver that we now renew this pioneering farsightedness by planting trees to replace those lost and to provide shade for the newer, treeless communities. If we don't, metro Denver could well "revert" to the nearly treeless Great Plains of the 1800's.

Arbor Day, officially celebrated in Colorado on the third Friday in April, provides a special opportunity to plant a tree (even a shrub) and give special recognition to the important role trees play in our daily lives and the welfare of a community.

TREES release life-giving oxygen we breathe and in exchange utilize carbon dioxide fixing it into useable energy sources.

TREES lower temperatures and reduce wind velocities.

TREES reduce noisy automobile and other man-made clamor.

TREES provide shelter for birds and other wildlife.

and... TREES give us restful beauty to help divert our attention from ulcer-giving pace of life.

Properly selected and planted, trees not only provide enjoyment for those present but also live on to future generations. A tree, then, should be considered an investment into the future.

People think nothing of paying \$12 to \$15 and more for a bouquet of flowers which last only a few days or as much as \$20 to \$25 for one evening of dinner and entertainment. Yet many balk at paying similar prices for a tree which will be enjoyed by children and adults for years to come.

Selecting a tree should be done as carefully as buying an automobile, an appliance or clothing. We spend time investigating the quality and performance of these purchases despite the fact that they depreciate rapidly anyway. In buying a tree, however, we rarely spend the time to properly select one for the conditions it will be subjected to. We buy the fastest-growing, least expensive types like soft maple and Siberian (Chinese) elm even though such species are notorious for brittleness resulting in high maintenance to reduce storm breakage. In the Denver area, where we average a limb-break-

ing snow storm at least once every five years, many also fail to spend time in finding out what trees will perform best in the existing soil and exposures, paying for these mistakes later on with various temporary treatments to correct an ailing plant.

Perhaps even more serious is failing to anticipate future growth of a tree. Trees too close to driveways, sidewalks and under powerlines must often be pruned unmercifully. Such trees are usually permanently disfigured just at the prime of their life.

Plant a tree this month to help celebrate the Arbor Day Centennial and to leave a living gift for present and future generations to enjoy. If you have no place to plant a tree, encourage and support the efforts of your service clubs, churches and schools.

For information on local Arbor Day activities, types of trees to plant and care of trees, contact *Trees for Today and Tomorrow* (Denver), 722-6262.

THINK TREES!

Dr. J. R. Feucht

The Denver Botanic Gardens is planning to recognize Arbor Day, April 21 by planting 2 dozen Austrian pines in the new gardens. We should like to encourage members and friends to celebrate the one hundredth anniversary of Arbor Day by selecting and planting trees on their own property.

Seedling trees — more than 1-1/2 million of them — are being offered this spring to Colorado rural landowners for windbreaks, shelterbelts, erosion control and reforestation plantings. Twenty-two species of trees and shrubs, both deciduous and evergreen, are available. One of the requirements for purchase of seedling trees, is that the landowner have a minimum of two acres of ground.

The trees are sold at cost. Bare-root varieties sell for \$6 for 50 trees, and potted evergreens are priced at \$9 for 30. Discounts are available for quantity orders.

Tree order blanks which should be returned as soon as possible, and a helpful booklet, *The Farmstead Windbreak*, describing the planting and maintenance of trees, are available from CSU extension agents, state district foresters or Soil Conservation Service (SCS) personnel.

SAVE THE DATE

Turning brown thumbs green and green thumbs greener is a primary goal for more than 300 volunteers at Denver Botanic Gardens Annual Plant Sale to be held Friday and Saturday, May 12 and 13 from 9:30 a.m. to 5:30 p.m. each day.

The largest and most looked-for activity sponsored by the Gardens, the plant sale welds the horticulture know-how and physical strength of Denver Botanic Gardens Guild, Around the Seasons Club and Associates of Denver Botanic Gardens. Many members will be working and it is hoped the others will support their efforts in this yearly event!

During the Plant Sale, we hope to have a book sale. Because of the great success of last year's sale, we are in need of more books to sell for this year's event.

If you have any books of botanical nature which you would like to donate to the library for the collection or for the sale, your gifts would be greatly appreciated.

SPRING QUARTER CLASSES 1972

The spring quarter classes at the Denver Botanic Gardens are presently being planned. All the classes will meet in the new Education Building, 1005 York Street in the assigned room. Please call Helen McCloskey at 297-2547 for further information or to register.

Andrew R. Knauer, Assistant Director will offer two sessions in *Pruning*. The first will deal with deciduous trees & shrubs and will be taught on Saturday, April 15 from 9-12 in classroom B. Evergreens & roses will be discussed on May 6, same time, same classroom. A half day course in *Summer Lawn Care* will also be taught by Mr. Knauer on May 20, 9-12, Classroom B. There is no cost for these classes.

Beginning Flower Arrangement will be offered by Mr. Lee Ashley. This class will start Monday April 10 and continue for 6 weeks until May 15 and will be taught from 7:30 to 9 p.m. in Classroom A. Mr. Ashley has taught at the Denver Community College, is active in the Gladiolus and Dahlia Societies, and is a well known lecturer to Garden Clubs in Denver and nationally. The fee — \$10.00 charge for members, \$15.00 for non-members.

Our very popular course entitled *House Plant Care* will be offered again by Ernest A. Bibee, Superintendent of the Conservatory. Class days are Tuesday, Thursday at 2 o'clock in classroom B in the Education Building. This class which starts in April 11 will end June 15. The fee for this 10 week course is \$10.00 for members and \$17.50 for non-members

Mr. Bibee will also offer a morning clinic on *House Plants*. This will be held on April 8, from 9-12 in classroom B. No charge.

Reminder Dr. Brumquist is leading a class in plant identification every first and third Wednesday of the month. In case of inclement weather, the class will meet in the Herbarium in the Education Building.

ART AND PLANT STRUCTURE IN FLOWER ARRANGEMENT

Denver Botanic Gardens and Colorado East Judges' Council of Colorado Federation of Garden Clubs are fortunate in being able to present a lecture and demonstration by Mrs. Joe E. Wolff of Bellevue, Washington. She is an artist, a Master Judge, a much sought after Instructor of National Council Flower Show Schools and Symposiums, a Landscape Design Critic and an Instructor holding numerous diplomas of achievement in both the formal and informal styles in the Senke Seishin School of Japanese Flower Arranging. She also worked for many years with the Experimental Stations of Washington State University. Many photographs of her arrangements and her articles on arranging and gardening have been published both nationally and internationally.

Join us for a stimulating and informative program, and stay for tea and a closer look at Mrs. Wolff's arrangements at 1:00 p.m., April 7. Horticulture Hall. \$2.00 donation. Reservations available at the Denver Botanic Gardens Gift Shop or contact —

Mrs. Frank Visher
3351 Vivian Court
Wheatridge, Colorado 80033

REPORT ON ANNUAL MEMBERSHIP DINNER

Those of you who were not able to attend the Annual Membership Dinner missed an evening of good companionship, delicious food, attractive decorations and an informative speaker. Plan to attend next year.

Governor John Love has proclaimed the week of April 16th, Ikebana's "Friendship through Flowers" week. This is the motto of Ikebana International. The week will be highlighted by the Denver chapter's 7th annual Japanese Flower Show in Horticulture Hall, Denver Botanic Gardens, 1005 York Street, April 22 & 23, Saturday and Sunday, 10 a.m. to 5 p.m.

The 65-member group are planning a spectacular display of nearly 200 Japanese arrangements in the various schools — Sogetsu, Ikenoba, Sekka and Ohara. There will be a demonstration in each of the schools periodically each day of the show. A Japanese garden designed by Mr. Victor Tawara and members has been built in the Lobby Court to be enjoyed through May 4th.

A \$1.00 donation is requested for admission to the show and the proceeds will be used to benefit the Denver Botanic Gardens.

The Rocky Mountain African Violet Council will hold its 11th annual show on Saturday and Sunday, April 29 and 30, at the Horticulture Hall of the Denver Botanic Gardens.

The theme this year is "A Plant for all Seasons." The show is open to the public from 2 to 6 on Saturday and 12 to 6 on Sunday.

For further information call the show chairman, Mrs. Marian Malinak at 798-1196.

Iris — The Lazy Man's Flower is the title of the next lecture in the Denver Botanic Gardens Series. Dr. Carl J. C. Jorgensen, department of Horticulture, Colorado State University, will speak in Horticulture Hall at 8 p.m. on April 20. Dr. Jorgensen received his undergraduate degrees at Michigan State University and his Doctor of Agriculture at the National University, Columbia, South America. He has written many technical and popular articles and has long been active in the American Iris Society and the Denver Iris Society.

Another Colorado State University Professor, Dr. William Klein, Department of Botany, will speak on "The Use of Native Plants in Landscape Design" on May 18 at 8 p.m., Horticulture Hall.

The Denver Museum of Natural History in Cooperation with the Thorne Ecological Institute announces: Man in Nature, A Seminar in Historical Ecology April 6-May 25, 1972. Through lectures, slide illustrations, motion picture films, and panel discussions, the participants will trace the history of ecological processes set in motion by man in the landscape from the earliest evidence produced thousands of years ago to those presently being set in motion. All classes will be held at the Denver Museum of Natural History on Thursday evenings, from 7 to 10 p.m.

Cost of the class is \$45.00 for individuals, \$75.00 for a two-member family combination.

The Consulting Engineers Council of Colorado named Wright-McLaughlin Engineers, the brand award winner of the fifth annual CEC Engineering Excellence Awards competition.

Wright-McLaughlin won its top award for its design of the water-oriented facilities planned for the Denver Botanic Gardens. The design is for a system of decorative waterways, including waterfalls, pylons, pools and channels integrated into the environment of urban dwellers.

Note: If you wish to call the Library on the weekend, the telephone listing is 333-9859.

CALENDAR OF EVENTS

APRIL 1972

April

1)	*	8:00 AM	Ed. Bldg., - Horticulture Hall	Architectural Secretary Ass'n - Work Session
1)		9:30 AM	Botanic Gardens House - Main Room	Gloxinia Gesneriad Growers
2)		2:00 PM	Ed. Bldg., - Lecture Room C	Bromeliad Organization
4)	*	10:00 AM	Ed. Bldg., - Herbarium Room	Herbarium Committee
4)	*	1:00 PM	Botanic Gardens House - Dining Room	Editorial Committee
4)		7:00 PM	Ed. Bldg., - Lecture Room B	Bonsai Club
4)		7:30 PM	Botanic Gardens House - Main Room	Colorado Mountain Club - Conservation
5)		9:00 AM	Botanic Gardens - Parking Lot	PLANT LIFE FIELD TRIP - Dr. Brunquist
6)		7:15 PM	Botanic Gardens House - Main Room	Orchid Society
7)	*	11:00 AM	Botanic Gardens House - Main Room - Dining Room & Kitchen	Civic Garden Club
7)		1:00 PM	Ed. Bldg., - Horticulture Hall	Colorado Federation of Garden Clubs, Mrs. Wolff - OPEN TO PUBLIC
8)		9:00 AM	Ed. Bldg., - Lecture Room B	House Plant Clinic - Mr. Bibee
10)		7:00 PM	Ed. Bldg., - Lecture Room C	Colorado Mycological Society
10)	*	7:30 PM	Ed. Bldg., - Lecture Room A	Beginners Flower Arrangement - Lee Ashley
11)	*	12:00 Noon	Botanic Gardens House - Main Room - Dining Room & Kitchen	Sphinx Club - Luncheon - Dr. Gambill, Speaker
11)	*	2:00 PM	Ed. Bldg., - Lecture Room B	House Plant Care - Mr. Bibee
11)	*	4:00 PM	Botanic Gardens House - Dining Room	Executive Committee
12)	*	9:30 AM	Botanic Gardens House - Main Room	D.B.G. Guild
12)	*	3:30 PM	Ed. Bldg., - Lecture Room A	Children's Garden - Beginners Meeting
12)		7:30 PM	Ed. Bldg., - Lecture Room B	Colorado Mountain Club - Denver Council
13)	*	2:00 PM	Ed. Bldg., - Lecture Room B	House Plant Care - Mr. Bibee
13)		7:30 PM	Ed. Bldg., - Lecture Room B & Prep Room	Organic Gardening Club of Denver
13)		7:30 PM	Botanic Gardens House - Main Room	Denver Rose Society
13)		8:00 PM	Ed. Bldg., - Horticulture Hall	Colorado Mountain Club - Program
14)	*	9:30 AM	Ed. Bldg., - Horticulture Hall	Women's Auxiliary to Colorado State Medical Society - Luncheon & tour
14)		7:30 PM	Botanic Gardens House - Main Room - Dining Room & Kitchen	Dahlia Society
15)		9:00 AM	Ed. Bldg., - Lecture Room B	Pruning - Mr. Knauer
16)	*	4:30 PM	Ed. Bldg., - Horticulture Hall	Iris Society Board Meeting - Pot Luck Dinner
17)		7:30 PM	Ed. Bldg., - Horticulture Hall	Colorado Mountain Club - Basic Mountaineering School
17)	*	7:30 PM	Ed. Bldg., - Lecture Room A	Beginners Flower Arrangement - Lee Ashley
18)	*	2:00 PM	Ed. Bldg., - Lecture Room B	House Plant Care - Mr. Bibee
18)		5:30 PM	Ed. Bldg., - Horticulture Hall	Sierra Club
18)		7:00 PM	Botanic Gardens House - Dining Room	Audubon Society
18)		7:00 PM	Ed. Bldg., - Lecture Room B	Bonsai Club
18)		7:30 PM	Ed. Bldg., - Lecture Room C	Colorado Mountain Club - Intermediate Mountaineering School
19)		9:00 AM	Botanic Gardens - Parking Lot	PLANT LIFE FIELD TRIP - Dr. Brunquist
19)	*	3:30 PM	Ed. Bldg., - Lecture Room A	Children's Garden - Beginners Meeting
20)	*	10:00 AM	Botanic Gardens House - Main Room	Around The Seasons
20)	*	2:00 PM	Ed. Bldg., - Lecture Room B	House Plant Care - Mr. Bibee
20)		8:00 PM	Ed. Bldg., - Horticulture Hall	Lecture Series - Dr. Carl Jorgensen - "Iris - The Lazy Man's Flower"
21)		7:30 PM	Ed. Bldg., - Lecture Room A	Colorado Bonsai Club
21)		7:30 PM	Ed. Bldg., - Herbarium	Botany Club
22)		10:00 AM	Ed. Bldg., - Horticulture Hall	Ikebana International Flower Show - OPEN TO PUBLIC 10:00 AM - 5:00 PM
22)		2:00 PM	Ed. Bldg., - Lecture Room B	Colorado Mountain Club - State Board
23)		10:00 AM	Ed. Bldg., - Horticulture Hall	Ikebana International Flower Show - OPEN TO PUBLIC 10:00 AM - 5:00 PM
24)		7:30 PM	Ed. Bldg., - Horticulture Hall	Colorado Mountain Club - Basic Mountaineering School
24)	*	7:30 PM	Ed. Bldg., - Lecture Room A	Beginners Flower Arrangement - Lee Ashley

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| 25) | 9:30 AM | Ed. Bldg., — Horticulture Hall | Community Day — Transportation System — Junior League |
| 25) | * 2:00 PM | Ed. Bldg., — Lecture Room B | House Plant Care — Mr. Bibee |
| 25) | 7:30 PM | Ed. Bldg., — Lecture Room B | Colorado Mountain Club — Intermediate Mountaineering School |
| 25) | 7:30 PM | Ed. Bldg., — Lecture Room C | Gladiolus Society |
| 25) | 7:30 PM | Botanic Gardens House — Main Room | Colorado Mountain Club — Photo Section |
| 26) | * 3:30 PM | Ed. Bldg., — Lecture Room A | Children's Garden — Beginners Meeting |
| 26) | 7:30 PM | Ed. Bldg., — Lecture Room B & Prep Room | Organic Gardening Club of Denver |
| 27) | * 2:00 PM | Ed. Bldg., — Lecture Room B | House Plant Care — Mr. Bibee |
| 27) | 7:30 PM | Botanic Gardens House — Main Room | Men's Garden Club of Denver |
| 27) | 8:00 PM | Ed. Bldg., — Horticulture Hall | Colorado Mountain Club — Program |
| 29) | 2:00 PM | Ed. Bldg., — Horticulture Hall | African Violet Show & Sale — OPEN TO PUBLIC — 2:00 — 6:00 PM |
| 30) | 12:00 Noon | Ed. Bldg., — Horticulture Hall | African Violet Show & Sale — OPEN TO PUBLIC — 12:00 — 6:00 PM |

* = For members or enrollees only.



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Come to the ... PLANT SALE

MAY

12 & 13

9:30 — 5:30

DENVER BOTANIC GARDENS

GARDENING TIPS FOR MAY

After an early start, an abrupt slowdown, and a new start, spring seems to be on its way. I hope you took good advantage of the warm weather in March to plough under your compost and get your soil ready for planting because now is the time to plant everything except the most tender plants such as tomato and eggplant. For these I would wait until about Memorial Day or at least until nighttime temperatures are above 50°. Fruit set does not occur very satisfactorily until that nighttime temperature average has been reached.

For good-quality bedding plants as well as trees and shrubs you should shop early. Bedding plants should be purchased now. When buying them look for quality first and price second. Petunias, for example, should be dark green in color, have stout stems and short internodes, i.e. the leaves close together. Preferably, they should also be branching at the base. This is an indication that the petunias were grown in uncrowded conditions and in a good, fertile soil. These same qualities should be looked for in other annuals. If they are light green, tall and stringy, it is an indication that they were pricked off too late and were in a crowded situation. Such plants usually need additional pinching when they are planted out. This will set them back several days.

When planting annuals out, particularly those in peat pots and similar "plantable" containers, be certain to break the sides of the peat pots in several places to allow root penetration. If they have plastic liners, these should be stripped away. If this is not done, your root system will tend to wind around inside the peat layer, resulting in a poor growth of the plants.

We often receive questions regarding the use of so-called starter solutions. These are totally soluble fertilizers, generally high in phosphorus and low in nitrogen and used in a rather weak solution when watering in at transplanting time. It is doubtful that these starter solutions are worth the high cost of the material. If you have well-prepared soil with proper aeration and drainage, you have all that is needed to get your plants off to a good start. Starter solutions are not a substitute for good soil preparation. There is, however, a certain psychological value in watering plants with these soluble salts. Use if you must!

Garden insects will soon be upon us in droves. Before you grab the sprayer be sure you assess the problem correctly to

determine if spraying is warranted. Frequently we apply pesticides unnecessarily because of the habit of spraying at the first sight of a bug. Find out what the bug is first. Determine whether it is really doing damage. Then, if controls are necessary, apply the appropriate control method. For those wishing to experiment with biological controls, a subject now receiving new impetus, keep in mind that you should not expect miracles and that parasites and predatory insects in the artificial environment of our cities rarely if ever give satisfactory results. At least, one should not expect perfect control. After all, if a predatory insect destroys its natural food supply, it too must die.

As usual, there will be a wide variety of new as well as old annuals to choose from. Petunias are still one of the most reliable when placed in reasonably good soil and a sunny exposure. Where shade is a problem, why not try balsam (impatiens), lobelia, scarlet sage (salvia) and forget-me-not? For hot and drier areas, marigolds, zinnia, nasturtium and sun rose are good selections. For low edges, try ageratum, sweet alyssum and annual candytuft.

A few new perennials this year worthy of trial are the chrysanthemum 'Golden Gem' with gold flowers and deeply cut fern foliage. 'Minnglow', a cushion-type which is said to be quite hardy, and 'Minnyellow', which flowers early enough for our climate and has flower heads about 2" across. To make sure your chrysanthemums are more bushy try pinching them weekly until about the first week of July. This will make them branch and produce bushel-size plants in one season if the soil is in good condition.

Dr. J. R. Feucht

CONGRATULATIONS TO MR. DEBOER!

Regis College conferred its highest award on Mr. DeBoer at the 14th Annual Civis Princeps dinner on April 29.

Mr. DeBoer who was "described as an ecologist ahead of his time was cited for being responsible, perhaps more than anyone else, for Denver's park and parkway system and the Denver Botanic Gardens."

He was one of the first men in America to carry out complete city planning and was known for his uncompromising insistence on professional quality in the creation of more liveable, comfortable and enjoyable places to live, work and play.

PLANT SALE MAY 12 & 13

It's that time again when all volunteers at the Denver Botanic Gardens blend their efforts together in the biggest event of the year.

WHERE: Arrivals at the Boettcher Memorial Center will be greeted by **Geraniums** and **Patio Plants**. Here one will find selections to brighten outdoor living rooms. House plants and violets will be sold in Horticulture Hall with the Gift Shop operating from its usual location. The Gaylord street entrance off 11th Avenue will contain most of the booths for garden plants: annuals, the berry basket, home garden donations, perennials, rock garden plants, trees and shrubs. The Gift Shop annex will be located near the north entry to the Boettcher Center and refreshments will be available on the lower level.

Some of the features to watch for will include the best **Annuals** for this area. Petunias — singles, doubles, fringed or frilled — are offered in complete color range. Pansies, snapdragons (dwarfs or giants), marigolds, lobelia and ageratum are a few of the popular bedding and edging plants.

Emphasizing the productive as well as the ornamental aspects of home gardening will be **The Berry Basket**. Here one may buy grapes, currants, raspberries, rhubarb plus a variety of fruit trees.

Children's Corner: Mini-plants for mini-people at mini-prices. Peanut cactus, sensitive plant and other plants appealing to children will be offered.

Herbs and Vegetables: Gourmets who seek garden fresh culinary herbs will find starts of basil, thyme, rosemary and other seasonings as well as asparagus, broccoli, eggplant and a variety of tomatoes.

Home Donations: A wide selection of plants is furnished by generous gardeners so many bargains will be found here.

House Plants: Exotic house plants such as carnivorous plants will complement a favorite planter or delight a greenhouse enthusiast.

Perennials: Bleeding hearts, ferns, and hostas for shade, pentstemon, delphinium and peonies for sun, these few names introduce dozens of perennials available for experienced or novice gardeners. Showy clematis vines with large purple, white or red blossoms lure those who garden on walls or fences.

Rock Garden and Ground Covers: Tender jewels for favorable settings and hardy plants for problem areas are among more than 60 kinds of plants to delight rock garden enthusiasts. Western shooting star and Easter daisy are two natives new this year. Special — *Helianthemum*, the sun or rock rose, will be available in rose, apricot, yellow or double apricot. This is a very colorful and hard to find plant.

Trees and Shrubs: Unusual trees and shrubs, and hardy trees and shrubs little known but readily grown in this area are for sale at this booth.

African Violets: A distinctive collection of named violets especially appropriate for Mother's Day gifts are donated and sold by members of the African Violet Society.

Gift Shop: Garden tools and accessories, hanging containers made of ceramic and enameled metal, large and small bottles with wrought iron stands, books, and stationery may be bought here.

As a special treat, demonstrations will be given on the preparation of Hanging Baskets — 11 a.m., Strawberry jars — 1 p.m. and Terrariums — 2 p.m. each day. Your garden is not the only beneficiary from this sale for by shopping here you will help the Gardens grow too.

IMPROVEMENTS AT THE GARDENS

Visitors to the Gardens will have noticed the entrance gateway and the gate house which are nearing completion. Our thanks to Mr. & Mrs. Frank McLister for the donation which constructed the gateway and to the Frederick G. Bonfils Foundation for the contribution that made possible the gateway and information center. Both of these will soon be in operation. The library book drop at the gate house is now in use.

Handsome white fiberglass containers are now being used in the Lobby Court to hold many of the larger plants. These containers were a gift of Mr. and Mrs. J. Kernan Weckbaugh as are two large bronzed stands for display purposes. Their kindness is certainly appreciated.

Some interesting displays are featured in the Lobby Court during the month of May. A Japanese garden was constructed through the courtesy of the Ikebana International and attracted many favorable comments. This was followed by a lovely planting of azaleas. A memorial contribution of flowers for the Lobby Court is always a most thoughtful gesture and gratefully accepted.

BONSAI SHOW

The Second Annual Bonsai Show and Exhibit of the Denver Senior and Junior Bonsai Clubs will be held in Horticulture Hall on Saturday, May 20, and Sunday, May 21 from 9 a.m. to 5 p.m. This is an unusual opportunity to view beautiful exquisite examples of the ancient oriental art of the culture of dwarf trees and plants in a container. Many of the priceless specimens of the Senior Club are 100 to 600 years of age. The display of the Junior Club members will permit you to see just what relative beginners to this art can accomplish in a brief period.

At 2 p.m. on both days demonstrations of bonsai potting, pruning, and wiring will be given. Do plan to attend! Donations will be accepted at the door.

IRIS SHOW

One of the most colorful shows of the year will be held June 3-4 at Horticulture Hall when the Iris Society presents, "Our Land, Our Home, Our Happiness." The hours are 1:30 p.m. to 6 p.m. on Saturday and 10 a.m. to 6 p.m. on Sunday.

MAY LECTURE

Dr. William M. Klein, Assistant Professor of Botany at Colorado State University, will present an illustrated lecture on "The Use of Native Plants in Landscape Design", May 18, 8 p.m. Horticulture Hall, 1005 York Street.

According to Dr. Klein, Colorado offers a wealth of native materials which are not being used in our gardens today because they have not been tested adequately for urban use in the Plains area. While a few nurseries specialize in native plants, the greater percentage of available nursery stock is of "foreign" origin. In the evergreen native trees considered especially desirable he lists blue spruce and Douglas-fir. Other trees which he considers suitable to the area are cottonwood, aspen, and alder. There is also great potential in native shrubs, and alpine plants suitable for rockeries and ground covers.

Mrs. Solange Huggins has recently returned from the Fourth Annual Conference of Botanical and Horticulture Librarians where she represented the Denver Botanic Gardens. This meeting was held in Washington, D.C.

Peony fanciers will be interested to note the dates of the 67th American Peony Society Botanical Exhibition. This is to be held in Kingwood Center, Mansfield, Ohio on June 17-18.

CALENDAR OF EVENTS

MAY 1972

May

1)	* 7:30 PM	Ed. Bldg., — Lecture Room A	Beginners Flower Arrangement — Mr. Ashley
1)	7:30 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Basic Mountaineering School
2)	*10:00 AM	Ed. Bldg., — Herbarium Room	Herbarium Committee
2)	*11:30 AM	Botanic Gardens House — Main Room	Chapter "E" of P.E.O. Sisterhood — Mr. Knauer, Speaker
2)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
2)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
2)	7:00 PM	Ed. Bldg., — Lecture Room B	Jr. Bonsai Club
2)	7:30 PM	Ed. Bldg., — Lecture Room C	Colorado Mountain Club — Intermediate Mountaineering School
2)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
3)	9:00 AM	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
3)	* 9:30 AM	Botanic Gardens House — Main Room	D.B.G. Guild
3)	*12:00 Noon	Ed. Bldg., — Lecture Room B	President's Council of Federation of Garden Clubs
3)	* 1:00 PM	Botanic Gardens House — Main Room	Transportation Advisory Committee to Colorado Air Pollution Control Commission
3)	* 3:30 PM	Ed. Bldg., — Horticulture Hall	Children's Garden Advanced Meeting
3)	7:45 PM	Ed. Bldg., — Horticulture Hall	Denver-East Central Civic Association
4)	9:00 AM	Ed. Bldg., — Horticulture Hall	We Care — Wellesley College — Joint Meeting
4)	* 9:30 AM	Ed. Bldg., — Lecture Room A	Children's Garden Supervisor Meeting
4)	*12:30 PM	Botanic Gardens House — Main Room & Kitchen	Crestmoor Garden Club — Box Lunch & Tour of Conservatory
4)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
4)	7:15 PM	Botanic Gardens House — Main & Conference Rooms	Orchid Society
4)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Program
5)	*11:00 AM	Botanic Gardens House — Main, Dining Rooms & Kitchen	Civic Garden Club — President's Tea
6)	9:00 AM	Ed. Bldg., — Lecture Room B	Pruning — Mr. Knauer
6)	9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
7)	2:00 PM	Ed. Bldg., — Lecture Room C	Bromeliad Organization
8)	7:00 PM	Ed. Bldg., — Lecture Room C	Colorado Mycological Society
8)	* 7:30 PM	Ed. Bldg., — Lecture Room A	Beginners Flower Arrangement — Mr. Ashley
8)	7:30 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Basic Mountaineering School
9)	* 9:00 AM	Ed. Bldg., — Lecture Room C	Extension Conference Planning Committee
9)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
9)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
9)	7:30 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Intermediate Mountaineering School
10)	7:30 PM	Ed. Bldg., — Lecture Room B	Colorado Mountain Club — Denver Council
11)	7:30 PM	Ed. Bldg., — Lecture Room A	Organic Gardening Club of Denver
11)	7:30 PM	Botanic Gardens House — Main Room	Denver Rose Society
12)		D.B.G. PLANT SALE — ED. BLDG., — OPEN TO PUBLIC 9:30 — 5:30	
12)	7:30 PM	Botanic Gardens House — Main Room	Dahlia Society
13)		D.B.G. PLANT SALE — ED. BLDG., — OPEN TO PUBLIC 9:30 — 5:30	
15)	* 7:30 PM	Ed. Bldg., — Lecture Room A	Beginners Flower Arrangement — Mr. Ashley
15)	7:30 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Basic Mountaineering School
16)	*12:00 Noon	Botanic Gardens House — Main Room	African Violet Council
16)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
16)	7:00 PM	Ed. Bldg., — Lecture Room B	Jr. Bonsai Club
16)	7:00 PM	Ed. Bldg., — Horticulture Hall	Sierra Club
16)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
17)	9:00 AM	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
17)	* 9:00 AM	Ed. Bldg., — Lecture Room A	Rocky Mountain Center on Environment
17)	7:30 PM	Ed. Bldg., — Horticulture Hall	Zero Population Growth
18)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
18)	7:30 PM	Ed. Bldg., — Lecture Room A	Organic Gardening Club of Denver
18)	8:00 PM	Ed. Bldg., — Horticulture Hall	Lecture Series — "The Uses of Native Plants in Landscape Design" — Dr. William Klein
19)	*10:00 AM	Ed. Bldg., — Horticulture Hall	Ikebana International — (2 workshops)
19)	7:30 PM	Ed. Bldg., — Lecture Room A	Colorado Bonsai Club
19)	7:30 PM	Ed. Bldg., — Herbarium Room	Botany Club

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20)	9:00 AM	Ed. Bldg., — Horticulture Hall	Colorado Bonsai Club Show — OPEN TO PUBLIC 9:00-5:00 PM
20)	9:00 AM	Ed. Bldg., — Lecture Room B	Summer Lawn Care — Mr. Knauer
21)	9:00 AM	Ed. Bldg., — Horticulture Hall	Colorado Bonsai Club Show — OPEN TO PUBLIC 9:00-5:00 PM
23)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
23)	* 4:00 PM	Botanic Gardens House — Conference Room	Board of Trustees
23)	7:30 PM	Ed. Bldg., — Lecture Room C	Colorado Gladiolus Society
24)	7:00 PM	Botanic Gardens House — Main Room	Colorado Citizens for Clean Air
25)	* 1:00 PM	Botanic Gardens House — Dining Room & Kitchen	Division A Garden Club
25)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
25)	7:30 PM	Botanic Gardens House — Main Room	Men's Garden Club of Denver
25)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — 16th International Photo Exhibition
26)	10:00 AM	Ed. Bldg., — Horticulture Hall	Ikebana International
30)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
30)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Photo Section
31)	7:30 PM	Ed. Bldg., — Lecture Room B & Prep Room	Organic Gardening Club
June			
1)	1:15 PM	Botanic Gardens House	Wheatridge-Lakewood Newcomers Garden Club — Mr. Knauer, Speaker — "Landscape Design"
1)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
1)	7:15 PM	Botanic Gardens House — Main Room	Orchid Society
2)	11:00 AM	Botanic Gardens House — Main, Dining Rooms & Kitchen	Civic Garden Club
3)	1:00 PM	Ed. Bldg., — Horticulture Hall	Iris Show — OPEN TO PUBLIC 1:00 - 5:00 PM
4)	10:00 AM	Ed. Bldg., — Horticulture Hall	Iris Show — OPEN TO PUBLIC 10:00 - 6:00 PM
4)	2:00 PM	Ed. Bldg., — Lecture Room C	Bromeliad Organization

Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 per year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 15th of each preceding month of publication. Editor — Margaret Sikes — 297-2547, ext. 23.



GARDENING TIPS FOR JUNE

What a spring! Or perhaps we should make that a question and say: Was that spring? But, anyone who has lived in Colorado very long soon learns that we rush from winter to summer, back to winter again several times before the season seems to settle down. This is exactly what happened this year. There were some distinct advantages in the crazy weather because if you were confused, many of the insects were likewise completely frustrated, in some cases to our advantage. For example, leaf rollers this year hardly had a chance and we can expect to find few this year. This is primarily because the warm-up in March started the crabapples and other leaf roller hosts to begin leafing out, and before the poor insect realized it the foliage was already too mature to sink his teeth into.

On the other hand, a very dry and windy winter preceding the warm-up in March was pretty tough on plants and we can expect to see wilting and die-back occurring this month in the more shallowly rooted plants such as birch, especially if they were not given water during the January-March period. Some damage is already showing, particularly on south exposures.

The ups and downs in temperature also resulted in some freeze injury to tender foliage. Typical examples are in honeysuckles and spirea. In most cases, however, the new growth has fairly well covered up the damage. Should you notice leaves towards the inside of a shrub or tree with marginal browning, don't hasten to the conclusion that it is a disease; it is more likely freeze injury.

I hope you resisted planting some of the tender plants like tomatoes until the third or fourth week in May. Planting before that time could have led to disaster and even if the plants survived they would have been held back even more so than a planting delayed until the first week in June. If you have not planted them, now is the time — but watch the watering.

Both tomatoes and peppers prefer a rather warm and relatively dry soil. Frequent watering tends to cool soils, reducing root growth, and too much water later in the season will also affect fruit set and fruit development. It would be difficult to give a rule of thumb on watering because each situation is different, depending on soil and exposure. In a well-drained, good garden soil, even on a south exposure, watering of tomatoes should not be necessary more than once every two weeks. I prefer to even let them go to the beginning of a wilting point at least until fruit set occurs.

Lawn diseases seem to come and go according to weather conditions. Because of the cool, moist conditions in late April and early May, leaf spot or *Helminthosporium* appears to be quite heavy in most lawns. The leaf spot stage is not too serious, but when the summer heat arrives a "melting-out" stage develops rapidly and often destroys large areas of the lawn. Leaf spot in the lawn can be recognized by examining the grass blades. Leaf spot starts as a series of reddish spots on the foliage. These eventually coalesce and result in total withering and browning of the blade.

Prevention is the best method for control of leaf spot. Avoid fertilizers with too much nitrogen too early in the spring and avoid frequent light waterings. Let the lawn get a little on the dry side before watering again. Then water deeply.

Several lawn fungicides, also preventive in nature, are available. These, while not curing the existing infections, will prevent further spread of the melting-out stage. One of the newest in a long line of lawn fungicides is Tersan 1991, a Dupont product consisting of 50% Benomyl. This chemical has several distinct advantages over most other products on the market in that it is systemic in nature, virtually non-toxic to the user and to wild life, and has a sufficient residual effect to make frequent applications unnecessary. Its disadvantage is the rather high price (currently over \$8 per pound). For lawns, however, it takes only about 2-4 ounces per thousand square feet to do the job.

Benomyl has also been shown to be the most effective chemical for control of a relatively new disease in Colorado: stripe smut. This disease occurs primarily during spring and early summer months when the nights are still relatively cool and there are frequent thunderstorms keeping the grass damp. Since it is a systemic disease which follows the rhizomes, control must be obtained through a systemic chemical such as Benomyl. You can determine whether you have stripe smut by searching the grass blades for grayish, powdery stripes. These are actually masses of spores which may be spread by wind, water, the lawn mower or even just walking across an infected area. So far, this disease has not reached a serious stage in lawns in Colorado, but under certain climatic conditions could severely weaken a lawn.

Dr. J. R. Feucht

THANKS AGAIN!

On behalf of the Board of Trustees and myself, I wish to again express my sincere thanks to all the Volunteers who worked on the Annual Plant Sale. Our co-chairmen, Mrs. Ted Washburne and Mrs. John Falkenberg, spent many long hours in planning for the big event. With the help of their various committee chairmen, the members of each committee plus all others who combined efforts, I am pleased to report this year's sale was a resounding success. Your fine cooperation and dedicated hard work have helped immeasurably in assisting in the development of the Gardens!

John C. Mitchell
President, Board of Trustees

JUNE LECTURE

Dr. John C. Long, expert on Colorado orchids, will deliver an illustrated lecture in Horticulture Hall, June 18 at 2:30 p.m. He is an avid outdoorsman and photographer and the author of *Native Orchids of Colorado* published by the Denver Museum of Natural History.

The Gloxinia Gesneriad Growers of Colorado will host their National Convention from June 29 to July 1. The show, open to the public, will be held at the Airport Holiday Inn, 4040 Quebec Street, Denver.

REPORT FROM THE DIRECTOR

Before the end of May some very important phases of the construction program of the Denver Botanic Gardens will have been completed. The construction of the major "roads" and walkways will be finished. These handsome new walks constructed of exposed aggregate and pigmented concrete represent about one-third of the total surface area of walkways scheduled for the gardens and about two-thirds of the total volume of concrete which will be required. Plans are now being formulated for the second phase of walkway construction.

Construction of the Service Area west of the greenhouses is now completed. This contract has involved the following: Installation of drains, grading, and asphaltting of a large combined work area and parking area for vehicles and large pieces of equipment; construction of the foundations of two new greenhouses west of the present greenhouses; installation of large concrete bins against the west side of the west greenhouse to hold sand, gravel, manure, peat, compost and the like; construction and black-topping of a roadway leading from the Service Area, south of the greenhouses and along the south side of the passageway between the Conservatory and the greenhouses, to the large standby generator, the cooling tower for the air-conditioning system, and the gas meter; and the installation of sub-surface drains throughout the whole area.

Repainting of the exterior wood trim of the Children's Garden Shelter House, as well as repainting and making numerous improvements in the interior have made this building much more attractive and useful. The Children's Garden Program is in full swing and new seedlings are to be seen in all the garden plots.

The new deep frames and nursery beds along the north side of the Conservatory driveway are in full use in our propagation program. Some 200 species of woody and herbaceous plants are being grown here for eventual trial in the gardens. Many of these species have not been tried in this region previously.

THANK YOU

To all those who labored so long and so diligently in planning and carrying off the most successful Annual Plant Sale in the history of the Gardens, the Director wishes to express his deep appreciation. General Chairman Mrs. Ted Washburne, her Co-Chairman Mrs. John Falkenberg, the heads of the various divisions and all the volunteers, as well as regular staff members of DBG, formed a team which was remarkable for its spirit of cooperation, its hard work and the individual self-sacrifice displayed by every participant. The Botanic Gardens is extremely proud of every one of you.

Colorado Water Color Exhibition

This show to be held in Horticulture Hall from June 9—June 25 is a mixed media show of professional artists. State awards and purchase awards will be given.

The Denver Botanic Gardens is pleased to announce that Wesley E. Woodward has accepted the position of editor of *The Green Thumb* magazine. Mr. Woodward is already hard at work on the summer issue.

LIBRARY FINES

Effective 1 June 1972 a fine for overdue books and pamphlets will be collected at the Helen Fowler Library of Denver Botanic Gardens. The fine will be five cents per/day per book, or per pamphlet, and will not exceed \$1.00 per book or per pamphlet.

Should a book or pamphlet be lost the borrower will be obligated to pay the current costs of replacement of the lost item.

SUMMER QUARTER SCHEDULE OF CLASSES

Two classes in *Bonsai for Beginners*, taught by George Fukuma will be offered Monday or Thursday evening for 5 weeks starting on June 1. These classes are held from 7 p.m. to 8:30 p.m. classroom A. The cost is \$20.00 for members, \$27.50 for non-members of Denver Botanic Gardens. Enrollment limited to 25 students per class.

Mr. Andrew Knauer, Assistant Director will teach a half day class, *Summer Care of Roses*, Saturday July 15 from 9 a.m. to 12 noon in classroom B. *Dividing and Transplanting Perennials* will be taught Saturday, August 5, 9 a.m. until 12 noon also in classroom B. Both are free and open to all.

Please call Mrs. Helen McCloskey at 297-2547 for information or to register for any of these classes.

Also the University of Colorado in conjunction with the Denver Botanic Gardens, will offer a graduate level course in *Environmental Education*. Mr. Charles Holtzer, the instructor of the class, plans to place the emphasis on active involvement by the workshop participants rather than on lecture type presentations and on instructional strategies rather than content. This class which carries 3 semester hours credit and costs \$45.00 will be offered in Classroom A, July 3 to 14 from 9 a.m. to 2 p.m. Two or three field trips will be scheduled in place of some of the classes.

Early registration is urged because of limited class size. For further information please call the University of Colorado, Office of Continuing Education, 892-1117 ext. 286.

A summer school course in *Botany for High School Students*, offered by the Denver Public Schools, is scheduled for June 19 through July 28, 1972. This class which carries 5 hours credit in Biology IV — Botany will be taught from 8 a.m. to 10:15 a.m. Monday through Thursday in classroom B. The course, designed to have pupil representation from each of the senior high schools in the Denver area, will be taught by Mr. Bill Bollacker of George Washington High School.

For information call Mr. Ted Calloway, Principal of the Summer School at 388-5603.

ROCKY MOUNTAIN NATIONAL PARK SUMMER SEMINARS

The spectacular peaks of the Continental Divide of Colorado will again provide the setting this year for the Rocky Mountain National Park Summer Seminars. Beginning June 19, distinguished scientists and educators will lead intimate groups in first-hand study of animal ecology, mountain ecology, bird ecology, alpine ecology, plant identification, mountain geology, mountain climates, and innovative ecological education techniques. Daily field trips in the Park and its vicinity will be supplemented by indoor discussion periods and evening lectures. Each seminar will last for six days and is independent from the others. There is a blanket fee of \$35 per seminar/week with \$5 off per week for each additional week after the first one. Interested participants may arrange credit with the University of Colorado. Accommodations are available in the town of Estes Park and Rocky Mountain National Park has several campgrounds.

Registration forms and further information may be obtained from Dwight Hamilton, Executive Secretary, Rocky Mountain Nature Association, Estes Park, Colorado 80517.

The Men's Garden Club of Denver presented Honorary Life Memberships to six of its long-time and valued members:

Frederic A. Adams	Homer A. Hoisington
Robert E. Ewalt	Chester J. McGuire
Dr. A. A. Hermann	Jacob V. Schaetzel

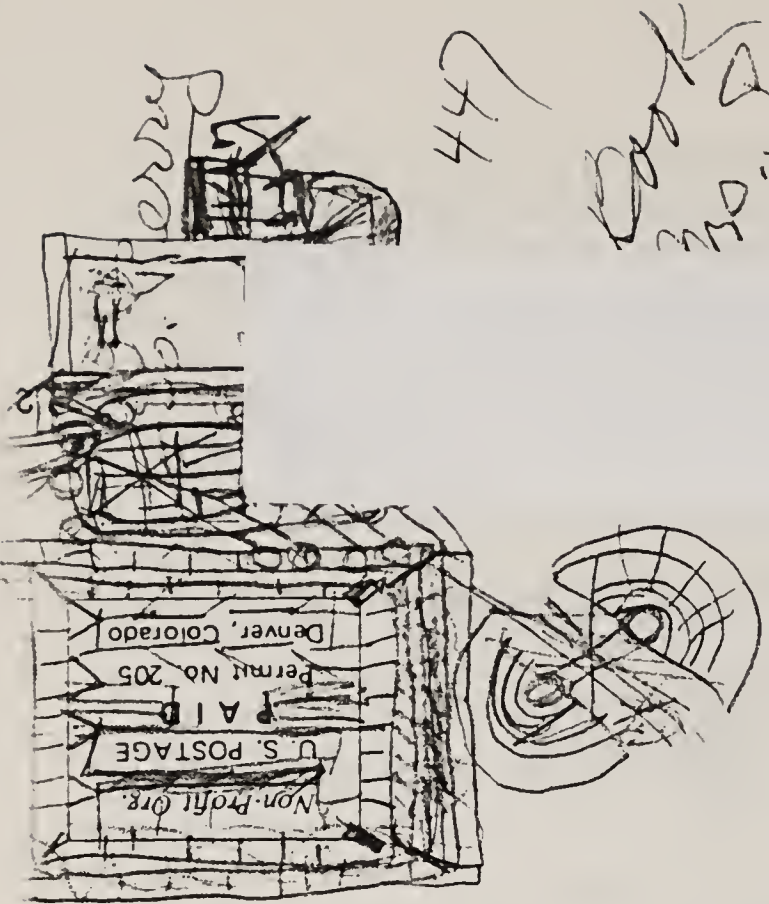
Congratulations!

CALENDAR OF EVENTS

JUNE, 1972

June

1)	* 1:15 PM	Botanic Gardens House — Main Room	Wheatridge-Lakewood Newcomers Garden Club — Tour of Conservatory, Speaker — Mr. Knauer
1)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
1)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Bonsai for Beginners — Mr. Fukuma
1)	7:15 PM	Ed. Bldg., — Horticulture Hall	Orchid Society
2)	* 11:00 AM	Botanic Gardens House — Main, Dining Room & Kitchen	Civic Garden Club
2)	* 7:00 PM	Ed. Bldg., — Lecture Room B	Rocky Mtn. African Violet Council
3)	8:00 AM	Ed. Bldg., — Horticulture Hall	Iris Society Show — OPEN TO PUBLIC 1:00 — 5:00 PM (Judging until noon)
3)	* 9:00 AM	Ed. Bldg., — Lecture Room B	Rocky Mtn. African Violet Council
4)	* 9:00 AM	Ed. Bldg., — Lecture Room B	Rocky Mtn. African Violet Council
4)	10:00 AM	Ed. Bldg., — Horticulture Hall	Iris Society Show — OPEN TO PUBLIC 10:00 AM — 6:00 PM
4)	2:00 PM	Ed. Bldg., — Lecture Room C	Bromeliad Organization
5)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Bonsai for Beginners — Mr. Fukuma
6)	* 10:00 AM	Ed. Bldg., — Herbarium Room	Herbarium Committee
6)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
6)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
6)	7:00 PM	Ed. Bldg., — Lecture Room B	Bonsai Club
6)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
7)	9:00 AM	Botanic Gardens Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
7)	1:00 PM	Ed. Bldg., — Horticulture Hall	National Federation of Women's Clubs — Tour of Conservatory
7)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
8)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
8)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Bonsai for Beginners — Mr. Fukuma
8)	7:30 PM	Ed. Bldg., — Lecture Room B & Prep Room	Organic Gardening Club
8)	7:30 PM	Botanic Gardens House — Main Room	Denver Rose Society
8)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — 16th International Photo. Exhibition
9)	9:00 AM	Ed. Bldg., — Horticulture Hall	Colorado Water Color Exhibition June 9 thru June 25
9)	7:30 PM	Botanic Gardens House — Main, Dining Room & Kitchen	Dahlia Society
12)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Bonsai for Beginners — Mr. Fukuma
12)	7:00 PM	Ed. Bldg., — Lecture Room C	Colorado Mycological Society
13)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
13)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
14)	11:30 AM	Ed. Bldg., — Horticulture Hall	Rocky Mtn. Center on Environment
14)	7:30 PM	Ed. Bldg., — Lecture Room B	Colorado Mountain Club — Denver Council
15)	* 2:00 PM	Ed. Bldg., — Lecture Room B	House Plant Care — Mr. Bibee
15)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Bonsai for Beginners — Mr. Fukuma
15)	7:30 PM	Ed. Bldg., — Lecture Room C	Organic Gardening Club
16)	7:30 PM	Ed. Bldg., — Herbarium Room	Botany Club
18)	2:30 PM	Ed. Bldg., — Horticulture Hall	Dr. John C. Long — Illustrated lecture "Orchids of Colorado"
19)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D.P.S. High School Botany Course — Mr. Bill Bollacker
19)	8:30 AM	Ed. Bldg., — Lecture Room C	Urban Horticulture — Dr. Feucht
19)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Bonsai for Beginners — Mr. Fukuma
20)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D.P.S. High School Botany Course — Mr. Bill Bollacker
20)	7:00 PM	Ed. Bldg., — Horticulture Hall	Sierra Club
20)	7:00 PM	Ed. Bldg., — Lecture Room B	Bonsai Club
20)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
21)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D.P.S. High School Botany Course — Mr. Bill Bollacker
21)	9:00 AM	Botanic Gardens Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
22)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D.P.S. High School Botany Course — Mr. Bill Bollacker
22)	* 10:00 AM	Botanic Gardens House — Main Room	African Violet Society of Denver — Chapter 1
22)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Bonsai for Beginners — Mr. Fukuma
22)	7:30 PM	Botanic Gardens House	Men's Garden Club of Denver
22)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Program
23)	7:30 PM	Ed. Bldg., — Lecture Room A	Colorado Bonsai Club



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- 26) * 8:00 AM Ed. Bldg., - Lecture Room B
 - 26) * 7:00 PM Ed. Bldg., - Lecture Room A
 - 27) * 8:00 AM Ed. Bldg., - Lecture Room B
 - 27) 7:30 PM Ed. Bldg., - Lecture Room C
 - 27) 7:30 PM Botanic Gardens House - Main Room
 - 28) * 8:00 AM Ed. Bldg., - Lecture Room B
 - 28) 7:30 PM Ed. Bldg., - Lecture Room B & Prep Room
 - 29) * 8:00 AM Ed. Bldg., - Lecture Room B
 - 29) * 7:00 PM Ed. Bldg., - Lecture Room A
- July
- 2) 2:00 PM Ed. Bldg., - Lecture Room C
 - 3) * 8:00 AM Ed. Bldg., - Lecture Room B
 - 3) * 9:00 AM Ed. Bldg., - Lecture Room A
 - 4) * 8:00 AM Ed. Bldg., - Lecture Room B
 - 4) * 9:00 AM Ed. Bldg., - Lecture Room A
 - 4) * 10:00 AM Ed. Bldg., - Herbarium Room
 - 4) * 1:00 PM Botanic Gardens House - Dining Room
 - 4) 7:00 PM Ed. Bldg., - Lecture Room B
 - 5) * 8:00 AM Ed. Bldg., - Lecture Room B
 - 5) 9:00 AM Botanic Gardens Parking Lot
 - 5) * 9:00 AM Ed. Bldg., - Lecture Room A
 - 5) 7:00 PM Botanic Gardens House - Dining Room
 - 6) * 8:00 AM Ed. Bldg., - Lecture Room B
 - 6) * 9:00 AM Ed. Bldg., - Lecture Room A
 - 7) * 9:00 AM Ed. Bldg., - Lecture Room A

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- D.P.S. High School Botany Course - Mr. Bill Bollacker
- Bonsai for Beginners - Mr. Fukuma
- D.P.S. High School Botany Course - Mr. Bill Bollacker
- Colorado Gladiolus Society
- Colorado Mountain Club - Photo Section
- D.P.S. High School Botany Course - Mr. Bill Bollacker
- Organic Gardening Club
- D.P.S. High School Botany Course - Mr. Bill Bollacker
- Bonsai for Beginners - Mr. Fukuma
- Bromeliad Organization
- D.P.S. High School Botany Course - Mr. Bill Bollacker
- C.U. & Botanic Gardens, - Environmental Education - Mr. Chas. Holtzer
- D.P.S. High School Botany Course - Mr. Bill Bollacker
- C.U. & Botanic Gardens - Environmental Education - Mr. Chas. Holtzer
- Herbarium Committee
- Editorial Committee
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- PLANT LIFE FIELD TRIP - Dr. Brunquist
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- Wild Life Committee of Audubon Society
- D.P.S. High School Botany Course - Mr. Bill Bollacker
- C.U. & Botanic Gardens - Environmental Education - Mr. Chas. Holtzer
- C.U. & Botanic Gardens - Environmental Education - Mr. Chas. Holtzer

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GARDENING TIPS FOR JULY

July might well be considered the vacation month, but the dedicated gardener will see to it that his garden does not suffer during his absence. For some reason weeds seem to grow faster when you are away and all the things that normally don't happen — insect build-up, unusual diseases and damage from the neighbor's dog — occur while you are away. Following are some guidelines that might be helpful in preparing your garden prior to your departure and making sure that it is reasonably well cared for.

- If you plan to use the services of the "kid next door" to mow your lawn, make sure he is familiar with the operation of your mower or, if he uses his, that the mower is set at the proper height. You should also be certain that his parents approve of your hiring him for the job. You may even want to make a written liability agreement with them should he be injured on your property.

- Make sure the mower is in good operating condition, that the blades are sharp and that there is an ample supply of gasoline. If it is of a 2-cycle type, prepare the oil-gas mixture in advance; don't rely on the boy to make up a new mixture.

- Spend some time with him showing the hazards in your yard. Pop-up sprinkler heads in underground systems will often stick and be sheared off and ruin both the mower and the sprinkler head. Caution him to avoid banging against trees with the mower as well as any other possible hazards.

- If you are going on a vacation for more than a week, someone will need to tend to the watering. Even an automatic system should be looked after periodically by a neighbor. Show the person who is to do the watering where sprinklers are set to give the best coverage based on your past experience. Point out where spot watering is needed. If you have a basement, caution him against setting sprinklers for long periods close to the house. It's no fun to come home to a flooded basement!

- It is usually difficult to instruct other than adults on the necessary weed control. Most school-age boys do not know the difference between a weed and the plant you want. It is best to weed the garden yourself before your departure and count on re-weeding on your return. It is generally not advisable to have a boy apply weed control chemicals of any kind. It would be better to have it done professionally by a landscape maintenance firm.

- If you have a landscape maintenance firm take care of your entire yard and it has not been your general practice, use the above points as a guide in instructing the men who will do the work. You will run into one difficulty and that is in finding someone who will adjust the mower height for your particular lawn.

- As with weed control, treating for insects and diseases should not be left to the novice. Either control the major problems prior to your leaving and hope it will suffice until you return or have it done professionally. If you are growing tomatoes, control of the tomato horn worm is essential. An application of Sevin to the tomatoes before leaving will usually give you sufficient protection for a couple of weeks. The chemical doesn't last that long but it takes about that long for a new generation to build up. Another

alternative is to pay a neighbor boy to pick them off every other day. Most neighbors will be more than happy to harvest any crops such as beans and tomatoes that are ready to eat.

The first big flush of bloom in roses will soon be over and, considering the trials and tribulations roses had in getting started this spring, it might be a good idea to give them a little boost with an application of fertilizer such as 5-10-5. Distribute one cupful evenly around the plant and stir well into the soil, followed with a thorough watering.

Speaking of roses, have you tried leaving the aphids alone for a week or so to see if the population builds up? Often it will actually reduce without the use of chemicals and if you observe closely you will find both larvae and adults of ladybugs having a feast. Even if you do eventually have to spray to control the population, it is an education to observe this natural phenomenon. "Try it; you'll like it."

Now that hot weather is here you will observe strange things happening to your trees and shrubs, many of which started showing wilting back in June. In the case of elms, it could be Dutch elm disease but what explains the sudden wilting in maples, Lombardy poplars as well as dieback in many of the pines? Frequently, the cause can be traced back to last September 17 when, as in October of 1969, a freeze and heavy snow storm occurred. The freeze last September was not as dramatic as in 1969 because the temperatures were not as low, but it did occur earlier and caught many trees and shrubs unprepared. Much of the damage went unnoticed, however, because the freeze was soon followed by the dormant period and the long winter months. It is only now when the leaves are fully expanded that irreversible injuries are showing up in the new growth.

To further complicate things, trees that were injured by the freeze may also be succumbing to various insects and diseases which thrive in weakened plants. Austrian, ponderosa and pinyon pines are showing build-up of various bark engraver beetles once thought to be of significance only in forested areas. Green ash is succumbing to the lilac borer and certain cottonwoods, poplars and willows have heavier-than-usual attacks of canker diseases. For advice about how to handle your particular situation, consult your local arborist, your county Extension office or call 355-8306.

Dr. J. R. Feucht

BOTANIC GARDEN GUILD ANNUAL GARDENS TOUR — July 26 from 10 a.m. to 6 p.m.

A tour of "in town" gardens which vary in size and planning. Some are maintained by their owners while others are professionally cared for. These should be a real treat for all to view. Tickets - \$4.00 — Available at Gift Shop, Botanic Gardens House, or call Mrs. R. Whealen - 355-5673, or Mary Ellen Baude - 777-5940. Also, tickets will be available at the Gardens on the day of the tour.

Refreshments will be served from 2 - 4 p.m. at the south side of the Botanic Gardens House, weather permitting, otherwise inside the House.

The tours will be in the Belcaro, Hilltop and Country Club Area.

CENTENNIAL CELEBRATION OF THE TORREY BOTANICAL CLUB OF NEW YORK

August 14th marks the centennial of the famous Gray's Peak Celebration of 1872. Imagine yourself at the summit of this 14,341 foot mountain reliving the event that commemorated two major peaks on the Continental Divide for two pioneer botanists, John Torrey and Asa Gray.

The schedule of the club is as follows: August 12th — Rendezvous at Georgetown, Colorado. Evening reception at the Hamill House sponsored by the Georgetown Historical Society at 8 p.m. Also, slide show on historic Georgetown.

August 13th — A day for adjusting to the altitude, including a walking tour of Georgetown with visits to some of the town's interesting homes and shops. Plenty of free time, plus evening slide show of the botany of Gray's and Torrey's Peaks.

August 14th — Assault day begins with a group breakfast at the Alpine Haus (Motor Inn) at 7 a.m. / departure from Georgetown at 8 a.m. (by car pool) and arrival at Stevens Mine (11,000 ft.); from the jump-off place you can climb the last 3,000 ft. to the top, OR botanize in the sub-alpine meadows at the base; on top there will be a brief recollection of the historic significance of the event; possible side trip to Torrey's Peak across a saddle between the peaks; return to Georgetown for 8 p.m. dinner at the Silver Queen, beautiful period Inn (about \$8. per person).

Leadership for the climb and botanical interpretations will be under the direction of Dr. William A. Weber of the University of Colorado. His new pocket-sized edition of *Rocky Mountain Flora* — now available in the Denver Botanic Gift Shop, plus a booklet containing a check list of species and botanical descriptions will be used. August 15th — Departure —

The Torrey Botanical Club has invited the Denver Botanic Gardens to participate in this historic event. People planning to attend should contact Jack Focht at Graymoor Manor, Garrison, New York 10524 or phone (914) 424-3504 by July 5.

* * *

SUMMER CLASSES

An *Advanced Flower Arrangement* class will be offered by Lee Ashley starting on July 17. This course to be taught on Monday and Thursday will meet for 6 weeks from 7 p.m. to 9 p.m. in classroom A. The cost is \$15.00 for members of Denver Botanic Gardens and \$22.50 for non-members. Call 297-2547 for further information or to register.

* * *

REMINDER

Mr. Knauer will teach two half day classes — *Summer Care of Roses* on July 15 and *Dividing and Transplanting Perennials* on August 5. Both will be from 9 a.m. to 12 noon in classroom B. FREE.

* * *

? ? ? DID YOU KNOW ? ? ?

The Denver Museum of Natural History in City Park has a pick-up point for paper to be recycled. The Museum encourages you to bring MAGAZINES and NEWSPAPERS to the large bin in the north parking lot.

We are very sorry to report that some names were inadvertently left off of the membership list which appeared in the summer issue of *The Green Thumb*.

Dr. Charles A. Chidsey III	Dr. John C. Long
Dr. & Mrs. John Durrance	Dr. Douglas A. McKinnon
Dr. & Mrs. Giles Filley	Dr's. Pfister, Dean & Whitesel
Dr. & Mrs. Charles G. Freed	Dr. & Mrs. Conrad M. Riley
Dr. John B. Holyoke	Dr. & Mrs. Oliver Wolcott

Because of renewals each month it makes it very difficult to produce an accurate up-to-date roster. We are in the process of completely rechecking our membership roster and we will have subsequent corrections in later months.

Our sincere apologies for our oversight.

FLOWER SHOW

August 4 is the date of the Gay Gardeners Federated Garden Club Standard Flower Show. Entry is open to any amateur gardener. Registration for the Artistic Division may be made by calling Mrs. Robert Hanke 756-3451.

The show will be open without charge to the public from 1 to 4:30 p.m., Horticulture Hall.

* * *

PLANTINGS AT THE GARDENS

During late May and early June over 11,000 annual plants were set in. Flagpole area flowers include: 'Madame Butterfly' and 'Gold Rocket' snapdragons, 'Salmon Irene' and 'Modesty' geraniums, 'Amethyst' verbena and 'Golden Triumph' celosia.

Plantings on the west side of York Street include: 'Carpet of Snow' and 'Royal Carpet' alyssum, 'Forest Fire' celosia, 'Firefly' and 'Golden Bedder' coleus, 'Spreading Sunset' lantana, 'Cupid Orange', 'Cupid Yellow', Diamond 'Jubilee', and 'Orange Jubilee', marigolds, 'Pink Magic', 'Apple blossom', 'Seafoam', 'Sugar Plum', and 'Sungurst' petunias, *Salvia farinaceae* 'Blue Bedder', *Verbena venosa*, 'Torch', 'Zenith', 'Rosy Future', 'Redman', and 'Wild Cherry' zinnias.

* * *

Conservatory Guides are on duty every day from 1 p.m. to 3 p.m. throughout the summer. Special guided tours within the hours listed above for groups of 30 or more may be scheduled by calling 297-2547, ext. 23, two weeks in advance. Of course the public is most welcome to tour the Conservatory without a guide. An information desk at the Conservatory is also staffed by volunteers from 12 noon to 4 p.m. on Saturday and Sunday throughout the summer.

* * *

The Denver Botanic Gardens was the recent recipient of some exotic seeds from Miss Holt in Tasmania. Two of the more interesting sounding are: Woolly tea tree, *Leptospermum lanigerum*, described as a large shrub with silvery foliage which turns bright pink in the spring and — Running postman, *Kennedya prostrata*, a plant with dark red pea type flowers and dark brown branches which creep on the ground.

Dave Blades will plant the seeds and we hope to have a report later on these plants from "Down Under".

* * *

NOTICE FROM THE LIBRARY

As of now, books and pamphlets from the Helen Fowler Library will be renewable for one week only. Renewals may be made by phone or in person. REMINDER: The book drop at the entrance gateway is in operation now for your convenience.

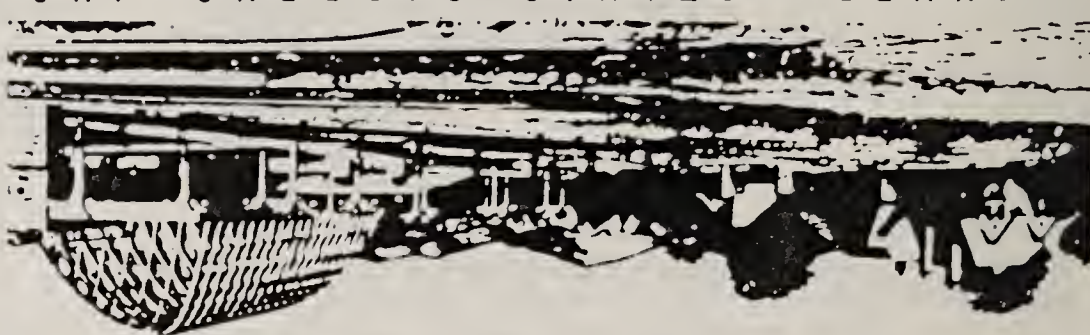
CALENDAR OF EVENTS

JULY, 1972

July			
2)	2:00 PM	Ed. Bldg., — Lecture Room C	Bromeliad Organization
3)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
3)	* 9:00 AM	Ed. Bldg., — Lecture Room A	C. U. & Botanic Gardens, — Environmental Education — Mr. Chas. Holtzer
4)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
4)	* 9:00 AM	Ed. Bldg., — Lecture Room A	C. U. & Botanic Gardens — Environmental Education — Mr. Chas. Holtzer
4)	7:00 PM	Ed. Bldg., — Lecture Room B	Bonsai Club
5)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
5)	* 9:00 AM	Ed. Bldg., — Lecture Room A	C. U. & Botanic Gardens — Environmental Education — Mr. Chas. Holtzer
5)	9:00 AM	Botanic Gardens Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
5)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
6)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
6)	* 9:00 AM	Ed. Bldg., — Lecture Room A	C. U. & Botanic Gardens — Environmental Education — Mr. Chas. Holtzer
7)	* 9:00 AM	Ed. Bldg., — Lecture Room A	C. U. & Botanic Gardens — Environmental Education — Mr. Chas. Holtzer
10)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
10)	* 9:00 AM	Ed. Bldg., — Lecture Room A	C. U. & Botanic Gardens — Environmental Education — Mr. Chas. Holtzer
11)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
11)	* 9:00 AM	Ed. Bldg., — Lecture Room A	C. U. & Botanic Gardens — Environmental Education — Mr. Chas. Holtzer
11)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
12)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
12)	* 9:00 AM	Ed. Bldg., — Lecture Room A	C. U. & Botanic Gardens — Environmental Education — Mr. Chas. Holtzer
12)	* 10:00 AM	Ed. Bldg., — Horticulture Hall	Beginners & Advanced Children's Garden — Lecture on Birds
12)	7:30 PM	Ed. Bldg., — Horticulture Hall	Zero Population Growth
12)	7:30 PM	Ed. Bldg., — Lecture Room B	Colorado Mountain Club — Denver Council
13)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
13)	* 9:00 AM	Ed. Bldg., — Lecture Room A	C. U. & Botanic Gardens — Environmental Education — Mr. Chas. Holtzer
13)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — "Wind Rivers—Wyoming"
14)	* 9:00 AM	Ed. Bldg., — Lecture Room A	C. U. & Botanic Gardens — Environmental Education — Mr. Chas. Holtzer
14)	7:30 PM	Botanic Gardens House — Main, Dining Room & Kitchen	Dahlia Society
15)	9:00 AM	Ed. Bldg., — Lecture Room B	Summer Care of Roses — Mr. Knauer
17)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
17)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Advanced Flower Arrangement Class — Mr. Lee Ashley
18)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
18)	7:00 PM	Ed. Bldg., — Lecture Room B	Bonsai Club
18)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
19)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
19)	9:00 AM	Botanic Gardens Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
19)	* 5:00 PM	Ed. Bldg., — Horticulture Hall	Garden Club of Denver
20)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
20)	* 1:15 PM	Botanic Gardens House — Dining Room	Associates Board Meeting
20)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Advanced Flower Arrangement Class — Mr. Lee Ashley
20)	7:30 PM	Ed. Bldg., — Lecture Room C	Organic Gardening Club
21)	7:30 PM	Ed. Bldg., — Lecture Room A	Colorado Bonsai Club
24)	* 8:00 AM	Ed. Bldg., — Lecture Room B	D. P. S. High School Botany Course — Mr. Bill Bollacker
24)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Advanced Flower Arrangement Class — Mr. Lee Ashley
24)	7:00 PM	Ed. Bldg., — Lecture Room C	Colorado Mycological Society

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|-----|---|----------------------|--|--|
| 25) | * | 8:00 AM | Ed. Bldg., — Lecture Room B | D. P. S. High School Botany Course — Mr. Bill Bollacker |
| 25) | * | 4:00 PM | Botanic Gardens House —
Conference Room | Board of Trustees |
| 25) | | 7:30 PM | Ed. Bldg., — Lecture Room C | Colorado Gladiolus Society |
| 25) | | 7:30 PM | Botanic Gardens House — Main Room | Colorado Mountain Club — Photo Section |
| 26) | * | 8:00 AM | Ed. Bldg., — Lecture Room B | D. P. S. High School Botany Course — Mr. Bill Bollacker |
| 26) | | 10:00 AM—
6:00 PM | Annual Garden Tours | See article on Page 1 |
| 27) | * | 8:00 AM | Ed. Bldg., — Lecture Room B | D. P. S. High School Botany Course — Mr. Bill Bollacker |
| 27) | * | 7:00 PM | Ed. Bldg., — Lecture Room A | Advanced Flower Arrangement Class — Mr. Lee Ashley |
| 27) | | 7:30 PM | Ed. Bldg., — Lecture Room B | Capitol Hill United Neighborhood |
| 27) | | 7:30 PM | Botanic Gardens House — Main Room | Men's Garden Club of Denver |
| 27) | | 8:00 PM | Ed. Bldg., — Horticulture Hall | Colorado Mountain Club — Austrian Adventure —
Fred Ruckhaus |
| 31) | * | 7:00 PM | Ed. Bldg., — Lecture Room A | Advanced Flower Arrangement Class — Mr. Lee Ashley |
| 31) | | 7:00 PM | Ed. Bldg., — Lecture Room C | Colorado Mycological Society |

August

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|----|---|----------|-------------------------------------|---|
| 1) | * | 10:00 AM | Ed. Bldg., — Herbarium Room | Herbarium Committee |
| 1) | * | 1:00 PM | Botanic Gardens House — Dining Room | Editorial Committee |
| 1) | | 7:00 PM | Ed. Bldg., — Lecture Room B | Bonsai Club |
| 2) | | 9:00 AM | Botanic Gardens Parking Lot | PLANT LIFE FIELD TRIP — Dr. Brunquist |
| 2) | * | 7:00 PM | Botanic Gardens House — Dining Room | Wild Life Committee of Audubon Society |
| 3) | * | 7:00 PM | Ed. Bldg., — Lecture Room A | Advanced Flower Arrangement Class — Mr. Lee Ashley |
| 4) | | 9:00 AM | Ed. Bldg., — Horticulture Hall | Gay Gardeners Standard Flower Show
OPEN TO PUBLIC — 1:00 - 4:30 PM |
| 5) | | 9:00 AM | Ed. Bldg., — Lecture Room B | Dividing & Transplanting Perennials — Mr. Knauer |
| 6) | | 2:00 PM | Ed. Bldg., — Lecture Room C | Bromeliad Organization |

* OPEN TO MEMBERS OR ENROLLEES ONLY



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GARDENING TIPS FOR AUGUST

August is usually a very hot, dry month during which our foremost thoughts may be to find ways to cool off. We may even do a bit of cooling off psychologically by wishful thinking of the Autumn weather to come. Now is a good time to not only think about fall, but to do something about it. By this I mean, we should begin to prepare our trees and shrubs for winter so that they will not suffer the injuries which have occurred all too often in the past few years from untimely freezes. After all we have had three such freezes in as many years and it can happen again.

What can you do? Perhaps the most important at this time is to begin tapering off on watering so that late growth is encouraged to harden off as early as possible. This doesn't mean that you completely ignore your woody plants in the yard. Simply reduce, gradually, the frequency of deep waterings and avoid, if at all possible, any shallow waterings.

Trees in lawn areas often get too much water because we tend to water lawns heavily right up to the first severe freeze. For this reason, most trees are not really compatible with lawns from the standpoint of water requirements. This is one more argument for increased use of mulches around trees and planting them in bays or beds rather than scattered across the lawn. Besides, when planted this way they are less apt to suffer from "lawnmoweritis" and do not have to compete with the roots of the turf.

For trees and shrubs, infrequent but deep watering is better than surface sprinkling. Use a hose-attached "soil needle" such as the "Ross Root Feeder." Gadgets of this type not only put the water down where it will do the most good but also conserves on water and helps to aerate the soil. The latter is especially important in our heavy clays. If you use a soil needle, insert it in a zig-zag pattern about half way between the trunk and drip-point (branch spread). Always insert the needle so that the tip is pointing away from the trunk. In this way you encourage roots to spread away from rather than into the tree.

Reducing the need for frequent watering in flower beds can be achieved by using a mulch. Even grass clippings work well to conserve soil moisture if they are applied dry and not too heavily all at once. Mulches not only reduce water loss but, if properly selected, will reduce many weed problems.

Speaking of mulches, C.S.U. Extension Service has just released a new fact sheet on the subject. You can obtain a copy from your county extension office or from the author, care of Denver Botanic Gardens. Ask for leaflet #7.214 — "Mulches for the Home Grounds."

We are often asked about the use of fertilizers on trees and shrubs at this time of year. Some authorities believe that fertilizer applications this late in the growing season will cause a plant to stay soft and thus be subject to early freezes. This may be true where excessive nitrogen has been applied which, in a sense, "pushes" an extra flush of growth. More recent evidence indicates, however, that moderate applications of fertilizers which are relatively low in nitrogen (5-10-5, 6-10-4 etc.) do not encourage "soft growth" — especially if the plant is in need of some

nutrition. Probably the best rule of thumb to follow is — apply fertilizer at the recommended rate if the plant needs it — otherwise withhold fertilizer applications until fall.

Hot weather diseases may begin to show up in your lawn at this time of year. Among the most common are dollar spot and brown patch. Treatment with a "broad spectrum" fungicide such as Fore, Daconil 2787 or Tersan 1991 will help reduce further spread. Altering cultural practices also goes a long way in preventing or at least reducing disease incidence. Avoid frequent, light or shallow waterings, keep the lawn mower sharp and maintain a cutting height of 1-3/4 inches or more.

Before you hasten to treat an area of turf with a fungicide, make sure that your problem is actually caused by a fungus disease. Doggie spots, buried pieces of rubble, fertilizer spills and many other non-fungus ailments in a lawn may look much like a disease. Consult your county extension office for assistance in identifying your lawn problems.

This is the month that the tomato hornworm, bean beetle and many other pests of vegetables build up to destructive numbers. Tomato hornworms can be "picked" off or you may wish to use a spray of Sevin. Bean beetles and similar pests are probably better controlled chemically — again — use Sevin. Sevin, if applied according to directions, is safe for the user, wildlife and is not long-persisting. Most vegetables may be consumed safely one day after application of Sevin. Sevin will not be too effective in controlling aphids and mites. For aphids use Malathion and for mites, Kelthane.

Dutch elm disease is very evident all over the Denver metropolitan area. While the over-all picture may seem bleak, there are still good reasons to maintain an optimistic attitude. First of all, many of the infections showing up were the result of heavy beetle flights late last summer. Since then, we have noted a drastic reduction in the population of elm bark beetle, the disease carrier — thanks to an earlier area-wide elmwood cleanup campaign spearheaded by a growing organization called "Trees for Today and Tomorrow." The warm-up in early spring which was followed by a cold spell may have also further reduced the beetle population.

A second reason for optimism is that the Colorado State Forest service is conducting tests on a systemic fungicide, Benomyl, which shows promise in curbing the disease. Area commercial arborists are cooperating in this research effort. Only arborists who have been given permission by special application to the Colorado Department of Agriculture are allowed to use the chemical and under approved methods.

It is too early to tell how effective Benomyl will be in controlling D.E.D. and conclusive results may not be available until next spring. In the meantime, you can do your part in "buying" the time needed and help slow the spread of the disease by keeping all dead and dying elmwood out of your trees. Also destroy elm logs on your property. Remember, it is against state and local laws to possess elm wood — unless the bark has been removed. Persons hoarding elm wood can be responsible for the deaths of many valuable shade trees.

Dr. J. R. Feucht

CONFUSED ABOUT LICHENS?

The Kathryn Kalmbach Herbarium is currently featuring a display on lichens. This explains the relationship of the alga and fungus and shows examples of the three main groups: crustose, foliose, and fruticose. Go see it — and while you're there, notice some of the other displays that Dr. Zeiner and her committee have arranged.

* * *

The Wild Flower Preservation Society has been re-established as an independent organization with headquarters at the New York Botanical Garden. The Society was established in 1902 with the stated objectives of educating the general public to an appreciation and understanding of nature, specifically of wild flowers and to take an active part in conservation.

NOTICE FROM THE LIBRARY

The following books have been added to the young gardeners' collection because of the generosity of participating parents. Thank you very much.

Abell, Elizabeth—*Flower Gardening*

Abisch, Roz—*Let's Find Out About Butterflies*

Allen, Gertrude E.—*Everyday Trees*

American Forestry Association —*Trees Every Girl and Boy Should Know*

Brockman, C. Frank—*Trees of North America*

Budlong, Ware—*Experimenting With Seeds and Plants*

Burningham, John—*Season*

Darling, Lois—*Worms*

Earle, Olive L.—*Peas, Beans and Licorice*

Frankel, Lillian—*101 Best Nature Games and Projects*

Grossman, Shelly—*Ecology*

Hellman, Elizabeth S.—*Wheels, Scoops and Buckets*

Hoke, Helen—*Ants*

Lavine, Sigmund—*Wonders of the Fly World*

Levi, Herbert W.—*A Guide to Spiders and Their Kin*

Lobsenz, Norman W.—*The Insect World*

Morton, Julia—*Exotic Plants*

Perper, Hazel—*The Citrus Seed Grower's Indoor How-to Book*

Robbins, Chandler S.—*Birds of North America*

Rood, Ronald—*Bees, Bugs and Beetles*

Scudder, Samuel Hubbard—*Brief Guide to the Commoner Butterflies of the Northern U. S. and Canada*

Selsam, Millicent E.—*The Carrot and Other Root Vegetables*

Simon, Seymour—*A Handful of Soil*

Spry, James C.—*Woodsong*

Sullivan, George—*How Do They Grow It?*

White, Florence—*Your Friend the Tree*

Wright, Robert H.—*What Good is a Weed?*

Youngman, Wilbur Hand—*Growing Your Trees*

Zim, Herbert S.—*What's Inside of Plants*

Zim, Herbert S.—*Insects*

* * *

Dr. Raymond C. Allen, Director of Kingwood Center and Vice President of the American Rose Society, was recently elected President of the World Federation of Rose Societies at their first meeting in New Zealand. Dr. Allen will serve until the conclusion of the next international meeting to be held in the United States in 1974.

HEAT GETTING YOU DOWN?

Try Sweet Woodruff, *Asperula adorata*. According to Gerard if it is "hanged up in houses in the heate of summer, doth very well attemper the air, coole, and make fresh the place . . ." This and other information may be found in the Guilds' compilation on herbs which is on display in the Library.

GLAD SHOW

The Colorado Gladiolus Society will present "Glad Friends" on August 12 and 13. The exhibition is open to all gladiolus growers but exhibits must be arranged by 10 a.m. on Saturday, August 12 for the judging at 11 a.m. Artistic arrangements by pre-registration with Lee Ashley at 757-4948.

Plan to attend this colorful event. Open to public from 1 p.m. to 5 p.m. on August 12 and 9 a.m. to 5 p.m. on August 13.

CIRCLE THE DATE

Sunday, August 27 is the date of the Dahlia Society Annual Show. The show will be open to the public from 1:30 p.m. to 5 p.m. Thirty divisions of flowers will be shown with a section for novices and juniors. This is always a beautiful show and a must to view.

The Gay Gardeners Federated Garden Club Standard Flower Show is to be held in Horticulture Hall on August 4. This show is open from 1 to 4:30 p.m. FREE!

The 17-year plant patents have recently expired on some favorite roses. Outstanding ones now "liberated" are 'Queen Elizabeth,' 'Tiffany,' 'Carrousel,' 'Chrysler Imperial,' and 'Mojave.' This means you are no longer prohibited from propagating them by cuttings, grafts and buds. They belong to the people now.

FIELD TRIP TO MT. GOLIATH

Susie Ash will lead a group to Mt. Goliath on August 17th. Please meet at 8:30 at the parking lot of the House, 909 York; bring a lunch and dress warmly. This trip will be limited to 20 people so please call Mrs. McCloskey, 297-2547 to sign up. Don't delay.

The Green Thumb Garden Club will present a Standard Flower Show, "The Things People Say" on Friday, August 18, Horticulture Hall, 1005 York Street. New introductions will be stressed in the Horticulture section. Classes are open to the public. One does not need to belong to a garden club to enter. Show Chairman: Mrs. H. B. Kniseley, 756-6311. For information regarding advanced artistic entries call Mrs. R. R. Reid, 733-8405. The public is invited and admission is free. The hours are 1 to 6 p.m.

SLIDE SHOW

Mrs. Ruth VanEtten, a volunteer conservatory guide, will show her slides of tropical plants at 1:30, August 9 in classroom C. Come and see these fine pictures. Open to the public without charge.

CALENDAR OF EVENTS

AUGUST, 1972

August

1)	* 10:00 AM	Herbarium Room	Herbarium Committee
1)	* 1:00 PM	Botanic Gardens House - Dining Room	Editorial Committee
1)	7:00 PM	Lecture Room B	Bonsai Club
2)	9:00 AM	Botanic Gardens Parking Lot	PLANT LIFE FIELD TIRP - Dr. Brunquist
2)	7:00 PM	Botanic Gardens House - Dining Room	Wild Life Committee of Audubon Society
3)	* 7:00 PM	Lecture Room A	Advanced Flower Arrangement Class - Mr. Ashley
4)	9:00 AM	Horticulture Hall	Gay Gardeners Standard Flower Show - OPEN TO PUBLIC - 1:00 - 4:30 PM
5)	9:00 AM	Lecture Room B	Dividing & Transplanting Perennials - Mr. Knauer
6)	2:00 PM	Lecture Room C	Bromeliad Org.
7)	* 7:00 PM	Lecture Room A	Advanced Flower Arrangement Class - Mr. Ashley
7)	7:00 PM	Lecture Room C	Colo. Mycological Society
8)	* 4:00 PM	Botanic Gardens House - Dining Room	Executive Committee
8)	7:30 PM	Botanic Gardens House - Main Room	Colo. Mt. Club - Conservation
9)	10:00 AM	Horticulture Hall	Children's Garden - Mr. Gundell
9)	1:30 PM	Lecture Room C	Slide Show of Tropical Plants
9)	7:30 PM	Lecture Room B	Colo. Mt. Club - Denver Council
10)	* 1:00 PM	Botanic Gardens House - Dining Room	Washington Park Garden Club Tea
10)	* 7:00 PM	Lecture Room A	Advanced Flower Arrangement Class - Mr. Ashley
10)	8:00 PM	Horticulture Hall	Colo. Mt. Club - Mushrooms
10)	8:00 PM	Botanic Gardens House - Main Room	Denver Rose Society
11)	7:30 PM	Botanic Gardens House - Dining Room	Dahlia Society
12)	8:00 AM	Horticulture Hall	Gladiolus Society Show - OPEN TO PUBLIC - 1:00 - 5:00 PM
13)	9:30 AM	Horticulture Hall	Gladiolus Society Show OPEN TO PUBLIC - 10:00 AM
14)	* 7:00 PM	Lecture Room A	Advanced Flower Arrangement Class - Mr. Ashley
14)	7:00 PM	Lecture Room C	Colo. Mycological Society
15)	7:00 PM	Lecture Room B	Bonsai Club
15)	* 7:00 PM	Botanic Gardens House - Dining Room	Audubon Society
16)	9:00 AM	Botanic Gardens Parking Lot	PLANT LIFE FIELD TRIP - Dr. Brunquist
16)	11:30 AM	Horticulture Hall	Rocky Mountain Center on Environment
17)	8:30 AM	Botanic Gardens House	Field Trip to Mt. Goliath - Sue Ash
17)	* 7:00 PM	Lecture Room A	Advanced Flower Arrangement Class - Mr. Ashley
17)	7:30 PM	Lecture Room C	Organic Gardening
18)	8:00 AM	Horticulture Hall	Green Thumb Standard Flower Show OPEN TO PUBLIC - 1:00 - 5:30 PM
18)	7:30 PM	Lecture Room A	Colo. Bonsai Club
18)	7:30 PM	Herbarium Room	Botany Club
21)	7:00 PM	Lecture Room A	Advanced Flower Arrangement Class - Mr. Ashley
21)	7:00 PM	Lecture Room C	Colo. Mycological Society
23)	9:30 AM	Lecture Room B	Arvada Newcomers Club
23)	10:00 AM	Lecture Room C	Children's Garden Lecture
24)	* 7:00 PM	Lecture Room A	Advanced Flower Arrangement Class - Mr. Ashley
24)	7:30 PM	Lecture Room B	Capitol Hills United Neighborhood
24)	7:30 PM	Botanic Gardens House - Main Room	Men's Garden Club of Denver
24)	8:00 PM	Horticulture Hall	Colo. Mtn. Club Program - Spain
27)	8:00 AM	Horticulture Hall	Denver Dahlia Society Annual Show - OPEN TO PUBLIC - 1:30 - 5:00 PM
28)	7:00 PM	Lecture Room C	Colo. Mycological Society
29)	7:30 PM	Botanic Gardens House - Dining Room	Colo. Mtn. Club - Photo Section

September

3)	2:00 PM	Lecture Room C	Bromeliad Org.
4)	7:00 PM	Lecture Room C	Colo. Mycological Society
5)	* 10:00 AM	Herbarium Room	Herbarium Committee
5)	* 1:00 PM	Botanic Gardens House - Dining Room	Editorial Committee
5)	7:00 PM	Lecture Room B	Bonsai Club
5)	7:30 PM	Botanic Gardens House - Main Room	Colo. Mtn. Club - Conservation
6)	7:00 PM	Botanic Gardens House	Wild Life Committee of Audubon Society
7)	7:45 PM	Botanic Gardens House - Main Room	Orchid Society

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| 7) | 8:00 PM | Horticulture Hall | Colo. Mtn. Club Program |
| 8) | 7:30 PM | Botanic Gardens House — Dining Room
& Kitchen | Dahlia Society |
| 9) | 8:00 AM | Horticulture Hall | Children's Garden Fair & Graduation |
| 9) | 11:30 AM | Botanic Gardens House — Main Room | Colo. Visitors Bureau |

* OPEN TO MEMBERS OR ENROLLEES ONLY



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GARDENING TIPS FOR SEPTEMBER

Frost may not be on the pumpkin; but in Colorado it can come at any time. The past two years are a testimonial to that fact. Colorado also will have, on occasion, an "Indian summer" which tends to extend the growing season and also results in some of the most brilliant fall color. Since we don't know which way it is going to be, it is always best to prepare for the worst. Last month, this column warned the home gardener to begin getting trees and shrubs ready for winter. By now you should have tapered off your watering practices and your woody plants should be well on the way to becoming hardened for winter. If they are still pushing out soft, succulent growth, perhaps you are watering them too much.

Buying Grass Seed

The fall months are a good time to plant a lawn or re-condition an old one. If you plan to start a new lawn from seed, be careful about the seed you buy. A good lawn can never come from poor quality seed. Here are some things to look for on the label; the percentage of germination, the variety of grasses and the percentage of each variety, and the percentage of "other ingredients."

Germination percentage will vary somewhat from one seed lot to the next, but in general for Kentucky bluegrass it should be in the range of 80% - 90%. More important than germination, you should look for the kinds of grasses in the package. They are generally listed as "fine textured grasses" and "coarse kinds." For a good Kentucky bluegrass lawn you will want the majority (98% or more) to be Kentucky bluegrass varieties. This may be a combination of several varieties such as Newport, Park and Delta.

"Bargain" Seed is no Bargain

Watch out for the label that has percentages of fescues, bents, rye grasses and "Kentucky 31," which is a fescue. On some labels Kentucky 31 fescue is printed in such a way as to be misleading. The word Kentucky is often in bold print and the careless reader will assume it is Kentucky bluegrass.

Under "Other ingredients" the percentage should be low, with preferably no weed seed indicated. It is much better to buy a grass seed with a small percentage of inert materials, which is usually chaff and other impurities, than one that has a low percentage of weed seed. To give an idea of how important this can be, even 1% of a weedy fescue contributes about ten thousand seeds to every one thousand square feet of lawn if seeded at the normal three pound rate.

It is no bargain to buy a grass seed containing mostly coarse grasses such as rye even if the price is only 98¢ per pound. A pound of rye grass contains only about 230,000 seeds; a pound of Kentucky bluegrass contains about 2,200,000 seeds.

Good Soil Preparation Pays Off

Whether you are planning to seed a lawn or sod it, be sure your soil is prepared properly. Once the lawn is in, it is difficult, if not impossible, to correct soil drainage

problems, surface compaction and to remove buried pieces or rubble. The ground should be ploughed or rototilled as deeply as possible, mixing in organic matter, particularly if the soil is of a heavy clay type. Two to three yards of well rotted barnyard manure, while introducing some weed seeds, is still one of the best as an amendment to a poor soil. Be sure that all rubble has been removed from the soil and the ground raked smooth so that the top surface has soil particles no larger than 1/4 inch in diameter. Where dower lines have been installed, extra preparation will be needed. This should be done well in advance of the seeding or sodding operation. Applying liberal amounts of water to the area will help in settling this disturbed soil. This may need to be done several times before adding the final fill to bring it up to grade.

Buying Trees and Shrubs

Fall is a good time to replace trees and shrubs or add to your landscape. The earlier they can be transplanted safely, the better off they will be for the coming winter. When buying a tree from your local nursery, select it carefully. Look for quality and don't buy by price alone. Some things to consider when buying a tree are the growth rate, branching habit and general brittleness. Some trees, by their very nature, are more brittle than others. You should know where the tree is to be placed on your property and consider the exposure.

As a general rule, the faster a tree grows, the more brittle it is, and the narrower the crotch angles the more easily the limbs will break in a storm. Avoid trees with poorly spaced branches. Where many branches are coming from the same point or origin on the same trunk, you will have a weakened spot which will be subject to storm injury. Trees should be selected for permanence and for future generations to enjoy. They should be selected from the standpoint of maintenance problems, not by initial cost. If more detailed information on the selection is desired, request Extension Service Pamphlet 43 from your local extension office or from the author, care of the Denver Botanic Gardens.

Planting Depth Important

Perhaps the biggest mistake made in transplanting trees in this area is planting them too deeply. As a general practice, trees that are to be placed in heavy soil should be planted so that the top of the soil ball will be about two inches above existing grade. In pines, particularly in very heavy soils, *plant even higher*. Trees planted in this manner should also be mulched with wood chips, leaf mold or other suitable material. Avoid *overwatering* a newly planted tree. Rather than following the rule of thumb of every other day or every week, etc., dig down around the edges of the soil ball at periodic intervals and check to see what sort of moisture content is in the soil. Do not attempt to keep the top surface constantly moist. The important area is in the zone of the roots, which are located six to eighteen inches below the soil surface, depending upon type of plant.

Dr. J. R. Feucht

FALL QUARTER CLASSES

The classes planned for fall will include a variety of subjects of general interest. All classes will meet in the Education Building unless otherwise indicated. Please call Mrs. McCloskey at 297-2547 for further information or to register.

Preparing Your Garden for Winter, a half-day session will be offered by Dave Boyle, Jefferson County Extension Specialist (Horticulture). This class will be taught on September 9 from 9 a.m. to noon, classroom B. No charge.

Mrs. Emma Lahr will teach *Growing African Violets* on Tuesday evenings, September 12 to October 10 from 7 - 9 p.m. in classroom A. This well qualified teacher is an authority on these plants and expects to discuss such topics as propagation, culture, diseases and treatment, preparing a plant for show, and growing violets under lights. The cost is \$10.00 for members and \$17.50 for non members. Limited enrollment so get your name in now.

Also in September the University of Colorado in conjunction with the Denver Botanic Gardens will offer a course in *Environmental Education*. This graduate level course in education carries 3 semester hours credit and will be taught from September 14 to December 14. The hours are 6:30 p.m. to 9 p.m., classroom C. For further information please call the University of Colorado, Office of Continuing Education, 892-1117, ext. 286.

Mr. Ernest Bibee, Superintendent of the Conservatory, will teach his popular course, *Tropical Plants for House and Garden* for 12 weeks on Tuesday and Thursday from 2 p.m. to 4 p.m. This class will start on September 12 and run until November 16. The cost is \$12.50 for members and \$20.00 for non-members.

Also *Tree Identification* walks will be led by Dr. Feucht on the four Wednesdays in October. The group will meet at 9 a.m. at the parking lot at the House, 909 York Street. The field trips which should take most of the morning, will be walking tours throughout the Denver area. Free.

Learning for Living, an adult education program for the community, is offering *Nature: Underfoot and Overhead*, to be taught jointly at the Botanic Gardens and the Museum of Natural History. This six week program will be offered on Monday afternoons starting October 9 from 1:30 - 3:30 p.m. For further information please call 322-6364.

Herb Gundell, Denver County Agent, will discuss *Flowering Bulbs for Indoor Bloom* on October 3 at 10:30, classroom B. This free hour session will help answer questions about bulbs to buy so that your home may be bright with spring color in the dreary days of winter.

CHILDREN'S GARDEN GRADUATION

At 2 p.m., Saturday, September 9, 1972 the Children's Garden graduation program will be held in Horticulture Hall.

Certificates will be awarded to 125 gardeners. Trophies will be presented to the winners of the best gardens in both the advanced and beginner group. Other awards will also be made at this time.

After the graduation program, vegetable and flower exhibits will be on display in the Hall. The Children's Garden will be open for viewing of the garden plots.

OPEN GARDEN DAY!

Come be a sidewalk superintendent!

Again this year the public is invited to come behind the fence and see the work that has gone on in the development of the Gardens. September 24 from 12 - 4 p.m., (October 1 if inclement weather,) the waterways will be turned on and visitors can stroll on the new walks to the accompaniment of the sight and sound of water rushing through the channels and splashing off the waterfalls and around the fountains.

Garden areas will be identified for the plantings to follow.

The Conservatory, Education Building including the Library, and the Children's Garden will be open to view.

Notice from the Library

There are a number of Library patrons who have returned their overdue books but have overlooked the payment of their fines. Until these fines are paid, Library check-out privileges will be withheld

* * *

The Gardens has had a request for a volunteer willing to donate an hour a day in a Care Center facility. This is a new place which has planned a greenhouse for its guests. The volunteer, who should be knowledgeable about greenhouse technics and plants, could provide a much needed service which could certainly be mutually beneficial to all involved.

Please call 297-2547, ext. 23 if interested.

* * *

Plant Organizations

Are you planning special events this year? Perhaps readers of the newsletter would be interested in knowing about programs to which the public is invited. If so, please remember the deadline of the 15th of each month preceding publication.

* * *

Visit the Gift Shop

Among the many beautiful things in the Gift Shop are Anne Ophelia Dowden's prints. This native of Colorado works only from nature and her paintings and drawings are noteworthy for their scientific accuracy and acute observation of detail. Her work has been exhibited in many galleries, among them the Metropolitan Museum of Art, the Brooklyn Botanic Garden and the Hunt Botanical Library in Pittsburgh. Her speciality is flowers but the Gift Shop also has a collection of her mushroom prints. Come and see these lovely works and while doing so notice the other many beautiful and practical objects in the Gift Shop.

* * *

Good Reading

The August 1972 *National Geographic* has an illustrated article on Carl Meyer, the amateur hybridizer, who created 'Portrait,' which won the All-American Rose Selection. Also look at the July 1972 issue of *Audubon* magazine. It has a beautiful essay on *The Running Country* about the tall grass prairie.

CALENDAR OF EVENTS

SEPTEMBER, 1972

September

3)	2:00 PM	Ed. Bldg., — Lecture Room C	Bromeliad Organization
4)	7:00 PM	Ed. Bldg., — Lecture Room C	Colorado Mycological Society
5)	* 10:00 AM	Ed. Bldg., — Herbarium Room	Herbarium Committee
5)	1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
5)	7:00 PM	Ed. Bldg., — Lecture Room B	Bonsai Club
5)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
6)	9:00 AM	Botanic Gardens Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
6)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
7)	7:15 PM	Botanic Gardens House — Main and Conference Rooms	Orchid Society
7)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Program
8)	7:30 PM	Botanic Gardens House — Main—Dining Room & Kitchen	Dahlia Society
9)	* 7:30 AM	Ed. Bldg., — Horticulture Hall	Children's Garden Fair & Graduation
9)	9:00 AM	Ed. Bldg., — Lecture Room B	"Preparing Your Garden for Winter" — Mr. Daye Boyle
9)	* 11:30 AM	Botanic Gardens House & Conservatory	Industrial Bankers Convention — Tour of Conservatory and Slide Presentation
11)	7:00 PM	Ed. Bldg., — Lecture Room C	Colorado Mycological Society
12)	* 2:00 PM	Ed. Bldg., — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
12)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
12)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Growing African Violets — Mrs. Ross Lahr
13)	7:30 PM	Ed. Bldg., — Horticulture Hall	Zero Population Growth
13)	7:30 PM	Ed. Bldg., — Lecture Room B	Colorado Mountain Club — Denver Council
14)	* 2:00 PM	Ed. Bldg., — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
14)	* 6:00 PM	Ed. Bldg., — Lecture Room C	Environmental Education — Mr. Holtzer
14)	7:30 PM	Botanic Gardens House — Main & Dining Rooms	Denver Rose Society
14)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Program
15)	7:30 PM	Ed. Bldg., — Herbarium Room	Botany Club
18)	* 10:00 AM	Botanic Gardens House — Dining Room	House Committee Meeting
19)	* NOON	Botanic Gardens House — Main Room	African Violet Council
19)	* 2:00 PM	Ed. Bldg., — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
19)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
19)	7:00 PM	Ed. Bldg., — Horticulture Hall	Sierra Club
19)	7:00 PM	Ed. Bldg., — Lecture Room B	Bonsai Club
19)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Growing African Violets — Mrs. Ross Lahr
20)	9:00 AM	Botanic Gardens Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
20)	7:15 PM	Botanic Gardens House — Main Room	Audubon Society
21)	* 10:00 AM	Botanic Gardens House — Main Room	Around the Seasons
21)	* 2:00 PM	Ed. Bldg., — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
21)	* 6:00 PM	Ed. Bldg., — Lecture Room C	Environmental Education — Mr. Holtzer
21)	7:30 PM	Ed. Bldg., — Lecture Room A	Organic Gardening Club of Denver
22)	9:00 AM	Ed. Bldg., — Horticulture Hall	Keep Colorado Beautiful
22)	7:30 PM	Ed. Bldg., — Lecture Room A	Colorado Bonsai Club
24)	12:00 Noon	OPEN GARDEN DAY — OUTSIDE AREA	OPEN TO PUBLIC 12:00 — 4:00 PM
26)	* 2:00 PM	Ed. Bldg., — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
26)	* 4:00 PM	Botanic Gardens House — Conference Room	Board of Trustees
26)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Growing African Violets — Mrs. Ross Lahr
26)	7:30 PM	Ed. Bldg., — Lecture Room C	Colorado Gladiolus Society
26)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Photo Section
27)	* 11:30 AM	Botanic Gardens House — Dining Room	Sunbonnet Garden Club
27)	* 12:30 PM	Ed. Bldg., — Lecture Room B	Cheeseman Park Garden Club
28)	* 2:00 PM	Ed. Bldg., — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
28)	* 6:00 PM	Ed. Bldg., — Lecture Room C	Environmental Education — Mr. Holtzer
28)	7:30	Ed. Bldg., — Lecture Room B	Capitol Hill United Neighborhood
28)	7:30 PM	Botanic Gardens House — Main Room	Men's Garden Club of Denver
28)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Program
29)	9:30 AM	Ed. Bldg., — Horticulture Hall	Colorado Citizens for Central City
29)	* 10:00 AM	Ed. Bldg., — Lecture Room C	Ikebana International

12

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12

October

1)	2:00 PM	Ed. Bldg., — Lecture Room C	Bromeliad Organization
1)	4:00 PM	Ed. Bldg., — Horticulture Hall	Brico Symphony Guild
3)	* 10:00 AM	Ed. Bldg., — Herbarium Room	Herbarium Committee
3)	10:30 AM	Ed. Bldg., — Lecture Room B	Forcing Bulbs for Indoor Bloom — Mr. Gundell
3)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
3)	* 2:00 PM	Ed. Bldg., — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
3)	7:00 PM	Ed. Bldg., — Lecture Room B	Jr. Bonsai Club
3)	* 7:00 PM	Ed. Bldg., — Lecture Room A	Growing African Violets — Mrs. Ross Lahr
3)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
4)	* 1:15 PM	Botanic Gardens House — Dining Room	Associates Board Meeting
4)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
5)	* 2:00 PM	Ed. Bldg., — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
5)	* 6:00 PM	Ed. Bldg., — Lecture Room C	Environmental Education — Mr. Holtzer
5)	7:15 PM	Ed. Bldg., — Horticulture Hall	Orchid Society
6)	* 11:00 AM	Botanic Gardens House — Main Room	Civic Garden Club of Denver
7)	9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
8)	7:30 PM	Botanic Gardens House —	Dahlia Society
		Main—Dining Room & Kitchen	

* OPEN TO MEMBERS OR ENROLLEES ONLY



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$5.00 a year. Items for publication are welcome. The deadline for copy to the editor is the 15th of each preceding month of publication. Editor — James M. Schell, 297-2547, Ext. 23.



GARDENING TIPS FOR OCTOBER

Bugs, bugs and more bugs! That's the kind of growing season we have had. Now that things are slowing up a bit, it might be good to reflect back on this past year and make some mental notes to prepare for next year.

Leafrollers Fewer, Other "Bugs" Numerous

You might recall that last spring we had the disappointment of an untimely frost which prevented most of our flowering trees, including crabapples, from making a big show. This, of course, can happen in Colorado frequently and should not come as a surprise. Some good came from that frost despite the losses. For one thing, leafrollers, which were heavy the previous spring, were a relatively minor problem. Apparently, the cold weather hit them at about the time hatching occurred and populations were severely reduced. A delayed hatch, while doing some damage, was comparatively minor.

As has been said before in this column, another possible benefit of the untimely frost was a reduction in the elm bark beetle population which spreads Dutch elm disease. Most of the early infections showing up were as a result of beetle flights which had occurred the previous fall. Despite the reduced beetle population, Denver will lose more than five thousand trees this year.

When growth finally got into full swing in spring, some rather strange things happened. Woolly aphids literally covered some trees and could be found in virtually every crevice of the bark of trees like apple, particularly those injured in last September's freeze. Since this tiny insect is protected by waxy hairs, control is not always easy. Malathion, which has a fumigant action, seems to be the best.

Borers on the Rampage

Another insect which is taking its toll in the City of Denver as well as in other areas is the lilac borer in Green Ash. It is true; the same borer which has for many years given us problems in old lilac canes is responsible for the severe damage and, in some cases, death of Green Ash. Unfortunately, control is not easy. In fact, there is little in the way of effective control. I have heard of many so-called cures, including injecting with Malathion or other insecticides and plugging the holes with chewing gum or stuffing them with moth crystals. Despite all of the reported cures, I have yet to see one that will do the job. Much like diseases, control of the borer must be preventive. Such treatments are applied as a bark spray using Lindane or Methoxychlor. This material must be applied early enough in the season to prevent entry of the borer.

State Tree Target of Caterpillar

Home owners who have spruce trees in the metropolitan area may have experienced the devastation of tussock moth. This minute caterpillar starts at the top of the tree in late May or early June. At this time it is easy to control with most contact insecticides. Unfortunately, most spruce owners don't notice the problem until the caterpillars have stripped the

foliage from the top. Control at that time is difficult. This past season the tussock moth outbreak was the biggest on record in Denver and seems to be spreading more widely every year. Trees that undergo a second year attack usually do not recover. If you have spruce, mark your calendar for next year to have your trees protected against this insect. If your trees are large, you will probably want to secure the services of a commercial arborist. Because spring is a busy season for them, mark your calendar in April to call them for scheduling. Spraying, however, should not take place until late May or June, depending on the hatch of the eggs.

This past year, local arborists in cooperation with the author, conducted some tests of a "biological control" for tussock moth. The material is a suspension of a bacterium, *Bacillus thuringiensis*. Our tests confirmed those of previous experiments by local arborists, that the bacillus is not effective and trees are stripped of foliage despite repeated applications.

Prepare Soil — Plant Bulbs

October is a good month to prepare your garden for the next growing season. Most garden soils can stand an annual spading and the addition of soil amendments to improve drainage and general health. If you have a compost pile, work in your compost. Aged manure, grass clippings and almost any clean plant refuse will help improve the soil.

This is also a good month to plant spring flowering bulbs, but be sure to buy them now rather than wait until they have been pawed over. Many of the garden centers are now carrying a wide variety, from the tiny squills and crocus to the large narcissus and cottage tulips. For more information on planting and care of bulbs, request free copies of Home and Garden Bulletin No. 136, "Spring Flowering Bulbs," and a planting guide designed for this area. These may be obtained by calling 355-8306.

VOLUNTEERS IN THE CONSERVATORY

Peg Hayward, who teaches the classes for volunteers who lead the tours in the conservatory, reports that the following new guides are already hard at work.

Eileen Bloustein	Sister Virginia Small
Mary Jacobson	Elizabeth Weiss
Rondeau Schug	

The following ladies will start their work this new school year.

Janet Bronstine	Margaret King
Mary Haglund	Jane Middlebrook
Alison Heins	

And six more students are taking the training classes and are soon to complete their course!

Mrs. Hayward, who donates hours of her time to this important aspect of the education program of the Gardens, will shortly be offering another class on the tropical collection. For further information, please call 297-2547.

NEW CLASS

Mrs. Mary Jo Knisley, President of the Floral Art Study Club, will teach a *Dried Flower Arrangement* class featuring the many things people can make from common materials such as pods, seeds and stems. Mrs. Knisley plans to discuss such topics as flower preservation methods, craft techniques; principles of elements of design; uses of decorative wood and creative design with dried and contrived flowers. This four week class will start on October 4 and end October 25. It will be held in Classroom A from 1 to 3:30 p.m. The cost is \$10.00 for members and \$17.50 for non-members. For further information or to register, call 297-2547.

REMINDER — OCTOBER CLASSES

Herb Gundell, Denver County Agent, will discuss *Forcing Bulbs for Indoor Bloom* on October 3 at 10:30 a.m. in classroom B. Come and learn what to buy and how to plant so that you may brighten your home this winter.

Learning for Living, a non-profit community adult education program, which is taught in fifteen neighborhood centers is offering a class at the Denver Botanic Gardens and the Museum of Natural History. This class entitled *Nature: Overhead and Underfoot* is a 6 week program which starts October 9 from 1:30 to 3:30. The class on the 16th will be taught by Helen Stanley and will feature a session on bottle gardens. Remember next time you visit the Library to see the large bottle which she made over 2 years ago. For more information on this interesting hobby see Mrs. Stanley's article in *The Green Thumb*, Winter 1971, get a reprint of this article (available in the Gift Shop), or plan now to attend *Nature, Overhead and Underfoot*. Please call 322-6364 for more information.

Have you noticed the Osage orange trees in fruit on the north side of the Children's Garden? Also do you realize that at least one beech, hickory and magnolia has grown to be a good sized tree in Denver? Dr. Feucht will lead *Tree Identification* walks each Wednesday morning in October. Please meet at 9 a.m. in the parking lot of the House, 909 York Street.

The Children's Graduation was held on September 9 with an enthusiastic standing room only crowd in attendance. Perhaps Foster Hawkins spoke for all in his award winning poem, "What My Garden Means to Me."

Beans and squash and marigolds
That is what my garden holds.
A bachelors button or two
Add a pretty dash of blue.
Endive and corn so good to eat
For my family it's a real treat.
It's a beautiful thing to see.
That is what my garden is to me.

Gertrude Grace Sill, staff member of the Museum Outside the Walls of the Metropolitan Museum of Art of New York, will talk on "The American Artist As Naturalist: the Audubons, the Peale and Bartrum Families of Philadelphia and Jonathan Fisher". These naturalists are featured with examples of their works, readings from their poetry and notebooks. This stimulating program will be open to the public on October 11 from 10 a.m. to noon in Horticulture Hall. Donations of \$1.00 at the door.

Members of the Gardens will be sorry to learn of the deaths of two distinguished men of science, both longtime friends of the Denver Botanic Gardens.

Dr. Edwin Kalmbach who was self educated in ornithology, mammalogy, entomology, botany and ecology, received many conservation awards including the Izaak Walton League's Founder's Day Award. His last gift to the Gardens was the fine stamp collection now on display in the Library which was described in the fall issue of *The Green Thumb* magazine.

Dr. John Chenault Long, clinical professor emeritus of ophthalmology at the University of Colorado School of Medicine, was primarily known to members of the Gardens as a botanist, orchid fancier and as the author of *Native Orchids of Colorado*. This work published by the Denver Museum of Natural History was the definitive work on this fascinating family.

Both gentlemen were greatly respected and admired by all who knew them. They will be missed.

ANNUAL MEETING OF ASSOCIATES

The Associates are pleased to present Mrs. Rebecca T. Northen, lecturer, author of many books, and renowned orchid specialist, who will speak at their annual meeting, October 16. The meeting will start at 11 a.m. in Horticulture Hall, followed by luncheon and Mrs. Northen's illustrated lecture.

Reservations are necessary and should be made before October 13, by calling Mrs. John Falkenberg, 322-4862 or Sheila Pfeil, 297-2547, ext. 23. Guests, other than Associates, may pay \$1.50 at the door.

FIRST PERMANENT PLANTING!

After a period of three years of grading, construction and perhaps some confusion some few plants have been placed in a permanent location for future viewing pleasure.

Because of the efforts of Region 20, American Iris Society, and their friends, 257 Iris have been planted in a central location in the "new" Denver Botanic Gardens. The planting was completed about Labor Day and while this is a wee bit late for planting iris in this area, with friendly weather, it is hoped there will be some lovely iris bloom to view next spring. The planting consists largely of tall bearded iris, which normally bloom the latter part of May. However, some standard dwarf iris are in the planting and these little fellows will open the bloom season. They will be followed by a group of intermediate iris, whose bloom will precede that of the tall bearded. Later in September, spuria iris will be placed in the beds. These iris are interesting for two reasons; their bloom comes after the tall bearded iris bloom period, and the form of the plant and bloom is quite different.

Come and see these lovely flowers next year.

AFRICAN VIOLET SALE

October 14 and 15 are the dates of the Annual African Violet Council Sale. All kinds of violets from rooted leaves to large size plants will be offered to the public. Other members of the gesneriad family will also be available. The hours of the show are 9:30 to 5 p.m. each day, Horticulture Hall. For further information, please call Marian Malinek, 798-1196.

CALENDAR OF EVENTS

OCTOBER, 1972

October

1)	2:00 PM	Ed. Bldg. — Lecture Room C	Bromeliad Organization
1)	4:00 PM	Ed. Bldg. — Horticulture Hall	Brico Symphony Guild
3)	* 10:00 AM	Ed. Bldg. — Herbarium Room	Herbarium Committee
3)	10:30 AM	Ed. Bldg. — Lecture Room B	Forcing Bulbs for Indoor Bloom — Mr. Gundell
3)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
3)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
3)	7:00 PM	Ed. Bldg. — Lecture Room B	Jr. Bonsai Club
3)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Growing African Violets — Mrs. Ross Lahr
3)	7:30 PM	Botanic Gardens House — Main Room	Colo. Mountain Club — Conservation
4)	* 9:00 AM	Ed. Bldg. — Lecture Room A	Tree Identification — Dr. Feucht
4)	* 1:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mrs. Knisley
4)	* 1:15 PM	Botanic Gardens House — Dining Room	Associates Board Meeting
4)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
5)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
5)	* 6:00 PM	Ed. Bldg. — Lecture Room C	Environmental Education — Mr. Holtzer
5)	7:15 PM	Ed. Bldg. — Horticulture Hall	Orchid Society
6)	* 11:00 AM	Botanic Gardens House — Main Room	Civic Garden Club
7)	9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
8)	7:30 PM	Botanic Gardens House — Main, Dining Rooms & Kitchen	Dahlia Society
9)	* 1:30 PM	Ed. Bldg. — Lecture Room C	Learning for Living
9)	7:00 PM	Ed. Bldg. — Lecture Room C	Colo. Mycological Society
10)	* 11:00 AM	Ed. Bldg. — Horticulture Hall	Garden Club of Denver
10)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
10)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
10)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Growing African Violets — Mrs. Lahr
11)	9:00 AM	Ed. Bldg. — Lecture Room A	Tree Identification — Dr. Feucht
11)	* 9:00 AM	Botanic Gardens House — Main Room	D. B. G. Guild
11)	* 10:00 AM	Ed. Bldg. — Horticulture Hall	Smith College Club of Colorado
11)	* 1:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement — Mrs. Knisley
11)	7:30 PM	Ed. Bldg. — Lecture Room B	Colo. Mountain Club — Denver Council
12)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
12)	* 6:00 PM	Ed. Bldg. — Lecture Room C	Environmental Education — Mr. Holtzer
12)	7:30 PM	Botanic Gardens House — Main Room	Denver Rose Society
12)	8:00 PM	Ed. Bldg. — Horticulture Hall	Colo. Mountain Club
13)	* 11:30 AM	Botanic Gardens House — Dining Room	Park Hill Garden Club
13)	7:30 PM	Botanic Gardens House — Main Room	Dahlia Society
13)	8:00 PM	Ed. Bldg. — Lecture Room B	Colo. Mountain Club State Board
14)	8:00 AM	Ed. Bldg. — Horticulture Hall	AFRICAN VIOLET COUNCIL SALE — Open to the public 8:00-5:00
15)	8:00 AM	Ed. Bldg. — Horticulture Hall	AFRICAN VIOLET COUNCIL SALE — Open to the public 8:00-5:00
15)	2:30 PM	Ed. Bldg. — Lecture Room A	Dahlia Society
16)	* 10:00 AM	Botanic Gardens House — Dining Room	House Committee
16)	* 11:00 AM	Ed. Bldg. — Horticulture Hall	Associates Annual Board Meeting
16)	* 1:30 PM	Ed. Bldg. — Lecture Room B	Learning for Living
17)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
17)	7:00 PM	Ed. Bldg. — Horticulture Hall	Sierra Club
17)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
17)	7:00 PM	Ed. Bldg. — Lecture Room B	Bonsai Club
18)	9:00 AM	Ed. Bldg. — Lecture Room A	Tree Identification — Dr. Feucht
18)	1:00 PM	Ed. Bldg. — Lecture Room A	African Violet Clinic — Mrs. Lahr
18)	* 1:00 PM	Ed. Bldg. — Lecture Room B	Flower Arrangement — Mrs. Knisley
19)	* 10:00 AM	Botanic Gardens House — Main Room	Around the Seasons
19)	12:30 PM	Ed. Bldg. — Horticulture Hall	Congress of Neurological Surgeons Wives
19)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
19)	* 6:00 PM	Ed. Bldg. — Lecture Room C	Environmental Education — Mr. Holtzer
19)	7:30 PM	Ed. Bldg. — Lecture Room A	Organic Gardening Club
20)	7:30 PM	Ed. Bldg. — Lecture Room A	Colo. Bonsai Club
20)	7:30 PM	Ed. Bldg. — Herbarium	Botany Club
24)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
24)	7:30 PM	Ed. Bldg. — Lecture Room C	Colo. Glad. Society

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24)	7:30 PM	Ed. Bldg. — Horticulture Hall	Sierra Club
25)	9:00 AM	Ed. Bldg. — Lecture Room A	Tree Identification — Dr. Feucht
25)	* 1:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement — Mrs. Knisley
26)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
26)	* 6:00 PM	Ed. Bldg. — Lecture Room C	Environmental Education — Mr. Holtzer
26)	7:30 PM	Ed. Bldg. — Lecture Room B	Capitol Hill United Neighborhood
26)	7:30 PM	Botanic Gardens House — Main Room	Men's Garden Club
26)	8:00 PM	Ed. Bldg. — Horticulture Hall	Colo. Mountain Club Program
27)	10:00 AM	Ed. Bldg. — Horticulture Hall	Ikebana Int'l.
29)	8:00 AM	Ed. Bldg. — Horticulture Hall	Classic Chorale
31)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
31)	7:30 PM	Botanic Gardens House — Main Room	Colo. Mountain Club — Photo Section

November

1)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life Comm. of Audubon Society
1)	8:00 PM	Ed. Bldg. — Horticulture Hall	Colo. Mountain Club — "Nordic Skiing"
2)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Tropical Plants for Home & Garden — Mr. Bibee
2)	* 6:00 PM	Ed. Bldg. — Lecture Room C	Environmental Education — Mr. Holtzer
2)	7:15 PM	Ed. Bldg. — Horticulture Hall	Orchid Society Show Meeting
3)	8:00 AM	Ed. Bldg. — Horticulture Hall	ORCHID SOCIETY SHOW
			Open to the Public 8 AM - 5 PM
3)	* 11:00 AM	Botanic Gardens House — Main Room	Civic Garden Club of Denver
4)	8:00 AM	Ed. Bldg. — Horticulture Hall	ORCHID SOCIETY SHOW
			Open to the Public 8 AM - 5 PM
4)	9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
5)	8:00 AM	Ed. Bldg. — Horticulture Hall	ORCHID SOCIETY SHOW
			Open to the Public 8 AM - 5 PM
5)	2:00 PM	Ed. Bldg. — Lecture Room C	Bromeliad Organization

* = For members or enrollees only.



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AT DENVER BOTANIC GARDENS

Gift Shop

FRIDAY AND SATURDAY — NOVEMBER 17 & 18 — 10 A.M. TO 4:30 P.M.

GARDENING TIPS FOR NOVEMBER

Whew! We finally got through a fall season without devastating snow storms and freezes. After the past few years I think we, and particularly the trees and shrubs, are entitled to a change. This was perhaps one of the nicest falls from the standpoint of color. The absence of early frost, combined with bright, sunny skies and rather dry soil conditions helped to intensify the color. It is a good thing that we had this extended "Indian summer" because we had more than usual rainfall in August, which kept the trees in a fairly succulent condition. You would have been unable to follow the advice given in this column on tapering off on watering. All of that is past now and, if anything, the opposite is true. Trees are now well into a dormant condition which is irreversible. If the soil is on the dry side, water should be applied.

Watering Trees and Shrubs

I prefer to water trees and shrubs at least once a month during the winter, using a hose-attached soil needle like the Ross Root Feeder or a similar device. Here are some tips on using such a device: Rather than face the tree or shrub you are to water, stand with your back toward the center of the plant in an area mid-way between the plant and the outer extremities of the branches. Insert the soil needle into the ground at an angle *away* from the plant. You need not leave the needle in one position more than a minute or two before moving it 6"—8" and repeating the process. This method accomplishes not only watering but tends to improve aeration. When the hole left by the feeder is angling away from the plant it encourages the root system to move outward rather than against itself.

Mulching to Delay Flowering

If you wish to delay the emergence of tulips and other early bulbs, plan to apply a mulch *after* the ground is thoroughly frozen. This will tend to keep the ground cool late into the growing season thus preventing premature emergence. Avoid using material for mulches that tend to compact

under the weight of snow or water. Finely ground peat moss is a poor one. Among the best are wood chips, bark chunks, corn cobs and coarse leaf mold.

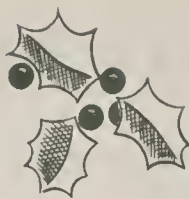
Clover Mites

Clover mites might be giving you a problem at this time. While they are not really a serious pest, they can be annoying, causing stains on the window sills. Control of clover mites is best done out of doors by applying a miticide such as Kelthane or Chlorobenzilate in a band around the house, spraying not only the shrubs adjacent to the foundations but the lawn as well. This chemical should be applied only when the temperatures are above 45°F. Additional protection can be obtained by also applying the spray to the foundation walls and around the window sills on the outside. The safest control indoors is to vacuum the mites rather than using a chemical. Most of the aerosols on the market for indoor use are not too effective against mites and some have solvents that can cause damage to painted surfaces.

D.E.D. Status Quo

Dutch elm disease is taking its toll in Denver. As mentioned in the October newsletter, Denver will lose more than 5,000 trees this year. Still Denver lost 6,000 elms the year before. This should be a sign of encouragement because the disease can increase tenfold from one year to the next if control measures have not been applied. Denver and its surrounding communities are, in general, doing a good job in maintaining the status quo as far as the disease is concerned. You can help to further reduce the spread of this disease by BEGINNING NOW with an annual cleanup of all dead and dying elm wood. Such wood should not be saved for fireplace use but must, by state law, be hauled to a dump and destroyed as soon as possible.

An organization called *Trees for Today and Tomorrow* will be spearheading an intensive campaign again this year. Watch for details in your local newspaper concerning Dutch elm disease control drives in your community



CHRISTMAS SALE

Friday and Saturday, November 17 and 18 are the dates of the Gift Shop Annual Christmas Sale in and around the Education Building, 1005 York Street.

New items just for this event. Imagine how charming a child's room could be decorated with a series of hand carved fairytale plaques. (Be sure to notice the mice who follow the Pied Piper!) Or again, picture the delight of a little girl with a procession of wooden elves marching around a three inch Christmas tree. Some of the figures are moveable. We have different sizes at different prices for different pocketbooks.

Want to stop hunting for string and scissors? Keep them always at your finger tips with a new ceramic container. Or how about a matching watering pot for your house plants and as a final touch, a kitchen calendar towel featuring herbs. Also the Gift Shop has new large ceramic birds perched on decorative pedestals. Perhaps you would like a lovely white dove box — perfect for those special trinkets.

Handcrafts by the Arts and Crafts group will offer many one of a kind items. As is the custom, the Christmas decorations of last year (hand made by children of the members), will be offered for sale this year. And don't forget to visit the *Fragrance Corner* for potpourri and tranquility pillows. Haven't you often wished to make a distinctive perfume that would be your own special blend? Now you may, for the ingredients of perfume can also be bought here.

New designs in gift wrap may also be found at this Sale and don't forget the colorful calendars featuring gardens in Britain or scenery in Switzerland — a useful and inexpensive gift. Yarrow, teasel, money plant and bells of Ireland, as well as cones, pods, and all sorts of dried materials will be available for those shoppers with the clever creative touch and a fine selection of books on botanical and horticultural subjects will await the discriminating shopper. Such titles as *Wild Flowers of the World*, published at \$15.00, now \$9.95, *Wild Flowers of America*, published at \$15.00, now \$6.95, *Odyssey Book of Wildflowers*, originally \$12.95, now \$6.95 and a special buy, *Birds and Trees of North America*, was \$200.00, now \$30.00 (2 volumes) are available. *Flowers and Symbols of the Christian Year* may be just the present for a special friend.

Also of course, many of the regular standard items that are so popular will be available. For the first time in months our herb vinegar, made from herbs grown and bottled by the members of the Denver Botanic Gardens Guild, will be offered. This delicately flavored condiment can only be purchased at the Gift Shop. Pick up herb labels, herb recipe cards and herb salt too.

Circle your calendar — come early, plan to look at the many lovely, artistic and practical items gathered from all over the world for this once a year event. Remember "A gift from the Gardens is a gift to the Gardens."



The Denver Orchid Society
invites you
to attend an orchid show
to celebrate their Twentieth Anniversary
Horticulture Hall, November 3-4-5, 9 a.m. to 5 p.m.

Thirteen categories of orchids including some of the most spectacular ones such as *Cattleya*, *Cymbidium*, *Dendrobium*, *Epidendrum*, and *Phalaenopsis* will be judged. Up to four distinctive awards will also be given. Plan now to attend!

* * * * *

The Montclair Community Association is sponsoring a house tour in the Montclair area, November 16, 1972 from 12 noon to 4 p.m., in which the bulk of the proceeds will go for trees and park improvement in the Montclair area.

The tour will consist of four homes and one historic church. Tickets will be \$3.00 which includes a booklet describing the houses and their histories. Tickets may be purchased at any of the homes, but a convenient starting place would be St. Luke's Episcopal Church, 13th and Poplar.

For further information, please call 333-6989

The information desk is manned everyday now from 11:30 a.m. to 3:30 p.m. Volunteers stationed in the Lobby greet visitors, answer many questions about the facility and the Denver Botanic Gardens and meet fascinating people from all over the world.

We still need a few more volunteers. If interested in this new opportunity for service, please call Peg Patrick, 722-3868.

Two distinguished members of the Gardens have a fascinating article in October's *Natural History* magazine. Ann Zwinger and Beatrice Willard have written *Above the Treeline* about the climatic conditions and the plants and animals that survive on Mt. Evans. If you don't have a subscription, come to the Library and read the article.

* * * * *

* * * FOR YOUR INFORMATION * * *

Many questions have been asked about the bas relief above the reflection pool in the Lobby Court. Rima, the bird girl from *Green Mansions* by W. H. Hudson, was created by Edgar Britton, noted Denver sculptor and was a gift from Mr. and Mrs. Victor Hornbein. Notice her next time you visit the Conservatory. Do you think that "all the separate and fragmentary beauty and melody and graceful motion found scattered throughout nature were concentrated and harmoniously combined in her . . . A being for the mind to marvel at, to admire continually, finding some new grace and charm every hour, every moment, to add to the old."

* * * * *

Another shipment of orchids has been received from Dr. G. K. Kennedy, of the Institute of Geophysics and Planetary Physics of the University of California at Los Angeles. These plants will be placed in our greenhouses and we hope to have a report on their progress later.

GARDENING TIPS FOR DECEMBER

In recent years the practice of buying live Christmas trees — those with roots still attached and either balled-and-burlapped or in a basket — has been on the increase. Much of this increase is apparently the result of a concern for our environment and the preservation of green plants. This may be a commendable sentiment, but there are several drawbacks that would make one wonder whether natural resources are actually being preserved or whether the opposite is true.

Not Really "Ecological" Practice

While some have had good success in getting a live Christmas tree to survive, far too many lose them. Live Christmas trees are nursery stock which, when planted properly and at the suitable time of year, will have good survival. The losses from live Christmas trees is an unnecessary waste of a green plant and is not at all "ecological."

It is difficult enough in Colorado to get a good survival from fall transplanted evergreens. It is even more difficult to gain survival from a tree which must be planted at the wrong time of year. The problem is further compounded because the tree has been given a temporary warming period by bringing it into the house. Here's why.

Temperature Fluctuations Injurious

In the fall of the year evergreens undergo an internal chemical change called hardening-off and then become dormant. This dormancy cannot be broken without a period of cold followed by a warming of the soil and the air. Evergreens will vary in the amount of cold necessary to break the dormancy period, but in many cases they will have had sufficient cold by Christmas that a few days indoors is all the plant can tolerate without undergoing some of the processes in breaking dormancy. If dormancy is beginning to break, the sudden shock of being moved back into the cold will kill the tree.

If you plan to purchase a live tree for Christmas this year, you will need to follow the steps below to give it the best chance for survival. This in no way is a guarantee that it will survive because vagaries of weather at that season can reduce chances for survival.

Steps to Enhance Survival

1) Dig the hole for the permanent tree location *now* while the soil is still soft enough to dig. The hole should be the same depth as the tree ball and at least 12" diameter wider.

2) Cover the hole — for safety — with planks or plywood.

3) Cover the soil from the hole with a loose mulch such as wood chips, leaf mold or compost and polyethylene plastic. This will help prevent the soil from freezing and also prevent it from getting too wet. You may also wish to take the soil to be used for backfill and place it in containers and store it in an area where it will not freeze.

4) Before the tree is to be taken indoors, keep it in a cool, shaded location. Water the soil ball at least once each week but *not* the day the tree is to be taken indoors. On burlapped trees, keep the burlap moist but avoid getting the ball too wet.

5) The tree should be located indoors in the coolest part of the house, away from heaters or return air draft vents. It should also be far enough away from a window to avoid direct sun exposure.

6) Plan to keep the tree indoors *no more than three days* — the day before Christmas to the day after Christmas. Survival chances are reduced the longer a tree is left indoors.

7) On the day after Christmas, return tree to a cool (40°-60°F) shaded location such as an attached garage. Water the soil ball weekly and allow it to remain for at least two weeks.

8) After the two-week period, the tree may be planted out if outside temperatures are not below 25°F. Otherwise, leave it in the protected location and water weekly.

9) When planting, remove any container made of plastic, metal or paper fibre. On wooden baskets, remove the ribs after placing in the hole. On burlapped trees, be sure to cut the strings from around the base. Replace the soil and water in well.

10) Apply a mulch 4 inches deep on top of the soil in the vicinity of the planted area. Water the tree if dry weather persists.

One of the dangers involved in a live Christmas tree is the number of times it has to be handled before it finally reaches a permanent planting site. Every time it is moved, some disturbance occurs to the root system. To reduce damage, *always lift by the soil ball — not by the top*. Do not allow the tree ball to drop onto a hard surface even if it is in a container.

If all the above steps are carefully followed, you may have success with a live Christmas tree and then an addition to the home landscape. Good luck! And Merry Christmas!

—Dr. J. R. Feucht

The Denver Botanic Gardens has been presented a unique gift from the Ladies Relief Society of Denver, a one hundred year old home for elderly ladies. The gift is a scrap book of Colorado wild flowers put together by the ladies in 1901. The book has been lying fallow these many years on a dark shelf in the basement of the home at 4115 West 38th Avenue. The flowers were gathered from the meadows surrounding the home at that time, the foothills and as far away as Leadville. They were carefully pressed, labeled with the botanical names and the location where each was found. One can picture the nostalgic scene of this Victorian group in their voluminous skirts and high necked shirt waists in the summer of the year busily picking their lovely specimens and later looking up the botanical names and probably pressing them in a heavy dictionary or a volume of Dickens. Those were innocent times and this scrap book is a gentle reminder of them. It may be seen in the Herbarium.

JANUARY CLASSES

Lee Ashley will offer a *Floral Design Workshop* as a non-credit course through the Community College of Denver. This is primarily planned to train would be florists for work in the trade. It will meet on Monday and Wednesday for six weeks starting January 3 at 7 to 9 p.m., Classroom A. There is a \$10.00 registration fee plus a \$1.50 charge per session for flowers. Please call 287-3311 ext. 210 for further information.

The Associates will offer a course in *Tropical Plants of the Conservatory* starting on January 8. This 6 week class will meet Monday and Wednesday from 1:30 - 3:30, in Classroom A and the Conservatory. Dr. Zeiner will teach 2 sessions in basic botany and one on plant families; Dr. Gambill will discuss basic taxonomy; Mrs. Hayward will explain the interesting features of many of the plants in the Conservatory and Mr. Bibee will offer 1 session on house plants, propagation, and operation of the conservatory.

This course, primarily planned as a Guide Training Class, will cost \$25.00. The fee, which is considered as a deposit, will be refunded, after deduction of costs, after the student guides for a total of 40 hours.

Please call 297-2547 for further information.

Andrew Knauer, Assistant Director of the Gardens, will teach his popular *Home Garden Design* again this winter. This class of 10 meetings will start on January 9 from 7:30 to 10:00 p.m., classroom A. Two Saturday field trips are also planned. It is required that both husband and wife enroll and attend together. Participants will design their own garden with the instructor's guidance. This will be a working class, not a lecture situation, with the ultimate goal, a working plan for landscape development of each enrollee's own property; another limitation is the size of the property; enrollee's lots must be approximately 100 ft. x 100 ft. or smaller. Those wishing to enroll in this class should contact Mr. Knauer before registering. Please call 297-2547 ext. 4 or leave a number so your call may be returned. The cost is \$17.50 for members of Denver Botanic Gardens and \$25.00 for non members.

The Botany Club plans to devote several of its meetings in the New Year to discussions on basic botany, keying and features of certain selected plant families. Dr. Brunquist, curator of Botany at the Denver Museum of Natural History, will lead the sessions. Samples from the herbarium will also be provided for the participants to study. It is hoped that this information will make the field trips in spring and summer even more interesting and informative. The January meeting is scheduled for January 19 at 7:30 in the Herbarium. If there is demand for more frequent meetings, they may be arranged.

The Hi-Country Workshop, a group of African Violet Judges, will staff a clinic every third Wednesday of each month from 1:00 p.m. to 4:00 p.m., Classroom A. Bring your questions on light, soil, fertilizers and varieties and if you wish, bring your problem plants for expert advice. Remember watch the Calendar of Events for this helpful clinic.

COME TO THE PARTY

Families and members of the Associates are invited to attend the Annual Tree Trimming Party. This get together was started some years ago as a means for families of Associates to know each other and help decorate the Conservatory. Everyone participates; everyone has something to do. Bring your husbands and children and we'll all have lots of fun. Prizes and refreshments. December 8, 7 - 9 p.m. Horticulture Hall.

For the person who has everything!

Friends moving to the area? What about a house warming gift of membership to the Denver Botanic Gardens. Benefits of membership include:

1. Twelve issues of the *Green Thumb Newsletter*, one each month of the year, with monthly gardening tips for the Denver area, and the complete monthly program of the Denver Botanic Gardens.
2. Four issues of *The Green Thumb* magazine, issued quarterly, with a wide variety of highly readable articles of interest to plant lovers in the Rocky Mountain region.
3. The privileges of checking out books from the Helen Fowler Library for your own personal use (non-members may use books only in the library, during library hours).
4. Discount of up to 30% on courses offered by the Denver Botanic Gardens.
5. Answers to your garden questions on flowers, shrubs, trees and lawn.
6. Use of rooms in Botanic Gardens House and the Education Building of the Boettcher Memorial Center for flower shows, classes, study groups and other meetings pertaining to horticulture, botany, or conservation.
7. Identification of native and cultivated plants, both woody and herbaceous of the Denver Metropolitan Area, including the mountains.
8. Opportunity to participate in a wide range of activities sponsored by the Denver Botanic Gardens and its affiliated organizations.

All dues and contributions deductible from Federal Income Tax.

The Helen Fowler Library wishes to express gratitude to the library volunteers who returning from their travels throughout the world, have brought back pamphlets and books for the library. Their interest and devotion to the Library are appreciated.

The Denver Museum of Natural History has planned two cruises in January down the coast of Baja, California. These will provide an opportunity to see one of the most beautiful, rugged and untouched corners of North America. The cruises are of six days duration and are available to members of the Museum. For further information, please call Mrs. Hartman 322-1808.

CALENDAR OF EVENTS

DECEMBER, 1972

December

1)	*11:00 AM	Botanic Gardens House — Main Room	Civic Garden Club of Denver
4)	* 2:00 PM	Botanic Gardens House — Main Room	Plain Conservation Center Meeting
4)	7:30 PM	Ed. Bldg. — Lecture Room B	Colorado Mountain Club — Conservation
5)	*10:00 AM	Ed. Bldg. — Herbarium Room	Herbarium Committee
5)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
5)	7:00 PM	Ed. Bldg. — Lecture Room B	Jr. Bonsai Club
5)	7:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club & Colorado Open Space Wilderness
5)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
6)	* 9:00 AM	Botanic Gardens House — Kitchen	D.B.G. Guild — Bottle vinegar
6)	* 9:30 AM	Ed. Bldg. — Lecture Room C	Regional Workshops — Grounds Maintenance
6)	*11:00 AM	Botanic Gardens House — Main Room	Dr. Feucht
6)	7:00 PM	Botanic Gardens House — Dining Room	D.B.G. Guild — Luncheon
6)	* 7:30 PM	Ed. Bldg. — Lecture Room C	Wild Life of Audubon Society
7)	* 7:45 PM	Botanic Gardens House — Main, Dining, Conference Rooms & Kitchen	Colorado Mountain Club — Avalanche School
7)	8:00 PM	Ed. Bldg. — Horticulture Hall	Orchid Society — Christmas Party
8)	* 7:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — Program
8)	7:30 PM	Botanic Gardens House — Main Room	Associates Christmas Party
			Dahlia Society

11)	* 7:30 PM	Botanic Gardens House — Dining Room	Swingle Study Group
11)	7:30 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — "Winter Camping"
12)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
12)	* 5:30 PM	Botanic Gardens House — Main Room	American Society of Landscape Architects
12)	7:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club & Colorado Open Space Wilderness
13)	* 6:30 PM	Ed. Bldg. — Horticulture Hall	Parks & Recreation Christmas Party
13)	* 7:30 PM	Ed. Bldg. — Lecture Room B	Colorado Mountain Club — Denver Council
13)	* 7:30 PM	Ed. Bldg. — Lecture Room C	Colorado Mountain Club — Avalanche School
14)	*12:00 Noon	Botanic Gardens House — Dining Room	Garden & Home Show — Board Meeting
14)	* 4:00 PM	Botanic Gardens House — Dining Room	Development & Public Relations Committee
14)	8:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — Program
15)	* 6:00 PM	Botanic Gardens House — Main, Dining Rooms & Kitchen	Colorado Bonsai Club — Christmas Party

18)	*10:00 AM	Botanic Gardens House — Dining Room	House Committee Meeting
19)	7:00 PM	Ed. Bldg. — Lecture Room B	Jr. Bonsai Club
19)	7:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club & Colorado Open Space Wilderness
19)	7:30 PM	Botanic Gardens House — Dining Room	Audubon Society
20)	* 1:00 PM	Ed. Bldg. — Lecture Room A	African Violet Clinic — Mrs. Ross Lahr
21)	*10:00 AM	Botanic Gardens House — Main, Dining Rooms & Kitchen	Around The Seasons Christmas Party
21)	7:30 PM	Ed. Bldg. — Lecture Room C	Organic Gardening Club
22)	*10:00 AM	Ed. Bldg. — Horticulture Hall	Ikebana International

26)	* 7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Photo Section
28)	7:30 PM	Botanic Gardens House — Main Room	Men's Garden Club of Denver
28)	8:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — Program

January 1973

2)	*10:00 AM	Ed. Bldg. — Herbarium Room	Herbarium Committee
2)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
2)	7:00 PM	Ed. Bldg. — Lecture Room B	Jr. Bonsai Club
2)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
3)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement — Mr. Ashley
3)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life of Audubon Society

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| 4) | 7:15 PM | Ed. Bldg. — Horticulture Hall | Orchid Society |
| 6) | * 9:30 AM | Botanic Gardens House — Main Room | Gloxinia Gesneriad Growers |
| 7) | 2:00 PM | Ed. Bldg. — Lecture Room C | Bromeliad Organization |

* For members or enrollees only.



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